DOCUMENT RESUME

ED 110 660 CE 004 449

AUTHOR Thomas, Hollie B., Comp.
TITLE Summaries of Research and Development Activities in Agricultural Education: Central Region, 1973-74.
INSTITUTION Florida State Univ., Tallahassee. Dept. of Vocational, Technical, and Career Education.
PUB DATE Dec 74
NOTE 114p.

EDRS PRICE MF-$0.76 HC-$5.70 Plus Postage
DESCRIPTORS *Agricultural Education; *Annotated Bibliographies; Educational Programs; *Research Projects

ABSTRACT

The document is an annotated bibliography of 61 studies in agricultural education reported during 1973-74 in the Central States region arranged alphabetically by author. For each entry an outline of the purpose, method, and findings of each study is provided. Access is by way of a subject index. A list of studies (including dissertations) in progress for 1974-75 is included, arranged alphabetically by author. (PR)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED110660

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SUMMARIES OF RESEARCH AND DEVELOPMENT ACTIVITIES IN AGRICULTURAL EDUCATION CENTRAL REGION 1973-1974

AN ANNOTATED BIBLIOGRAPHY OF RESEARCH AND DEVELOPMENT ACTIVITIES IN AGRICULTURAL EDUCATION

VOCATIONAL-TECHNICAL AND CAREER EDUCATION
FLORIDA STATE UNIVERSITY
TALLAHASSEE, FLORIDA

DECEMBER, 1974

CE004449

JUN 16 1975

SUMMARIES OF RESEARCH AND DEVELOPMENT ACTIVITIES

IN AGRICULTURAL EDUCATION

CENTRAL REGION

1973-74

Compiled by
Hollie B. Thomas
Associate Professor, Vocational, Technical and Career Education
Florida State University

Issued by

Vocational, Technical and Career Education
Florida State University
Tallahassee, Florida 32307

December 1974

INTRODUCTION

This compilation of research in agricultural education includes abstracts of 61 studies reported during 1973-74 in the states of the Central Region. This compares with 46 studies reported last year, 76 the year before, 83 in 1971, 103 in 1970, 82 in 1969, 66 in 1968, and 55 in 1967. Studies are arranged alphabetically by author and indexed by subject. A list of studies in progress in 1974-75 is also included.

Abstracts of research completed in 1973-74 were reported by teacher education institutions and state departments of education in the region. All studies reported are available for loan from university libraries, departments of agricultural education in universities, or state departments of vocational and technical education.

This compilation of abstracts of research in agricultural education is an activity of the Research Committee of the Agricultural Education Division of the American Vocational Association.

Hollie B. Thomas
Central Regional Representative
Research Committee
Agricultural Education Division
American Vocational Association

December 1974

SUMMARIES OF STUDIES, 1973-74

1- ALLISON, Leslie Bruce, The Importance of a Proposed List of Policies for Cooperative Programs in Agricultural Education for Kansas. Master's Report, 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the importance of a list of proposed policies for cooperative programs in agriculture for Kansas. The study was designed to identify policies for cooperative programs and allow for recommendations of adoption or non-adoption. Nineteen teachers of vocational agriculture with experience in conducting cooperative programs, and four members of the State Staff in Agricultural Education in the State Department of Education, and five teacher educators at Kansas State University served as the population for the study.

Method. The instrument used to gather information needed for this study was a questionnaire which contained 45 proposed policy statements. The policy statements were grouped into the following areas for evaluation in this study: 1. Selection of students; 2. Student placement; 3. Selection of training stations and placement of students; 4. Related classroom instruction; 5. On-the-job instruction; 6. Administrative procedures and; 7. Advisory, promotion, and evaluation procedures.

The nineteen teachers and the nine state staff members responded to the importance for each policy on the questionnaire by choosing one of the five possible responses. The responses and their values were used to obtain weighted averages as follows: No, should not be adopted as a local policy, 0 points; Undecided as to whether policy should be adopted, 1 point; Yes, may be adopted, 2 points; Yes, should be adopted, 4 points. In analyzing the ratings, guidelines were developed to assess the importance of each policy statement for conducting cooperative programs in agriculture. Policy statements with sum averages between 3.51 to 4.00 were considered to be a category "must be" adopted; 3.01 to 3.50 sum averages were considered "should be" adopted; 2.51 to 3.00 sum averages were considered to "need more study".

Findings. There were ten policy statements that were ranked in the "must be" adopted category of 3.51 to 4.00. Fifteen of the policy statements were ranked in the "should be" category with sum averages of 3.01 to 3.50. Twenty policy statements were ranked in the "need more study" category and had sum averages of 2.51 to 3.00 or had a difference of .50 or more between the weighted averages given the policy statement by the two groups in the population.

The policies which were grouped in the areas of selection of students, administrative porcedures, and on-the-job instruction received higher importance ratings than those grouped in the areas of advisory, promotion, and evaluation; related classroom instruction; selection of students; and student placement.

The author concluded that there was substantial agreement between the vocational agriculture teachers and the state staff members since there was less than .50 difference between the importance ratings for 39 of the 45 policy statements for the two groups. The author recommended that more research and study be implemented in the area of

policy development for cooperative programs in agriculture as follows:

A. Cooperating businesses should be surveyed to determine their opinions relating to policy matters.

B. Administrators having cooperative programs in their school systems should be surveyed as to valuable policy statements.

C. Teachers with experience in conducting cooperative programs in agriculture and state staff members should participate in a workshop to study and revise the policies which were identified by this study to "need more study".

2- ANDREW, Neal D., Jr., "An Analysis of Present and Potential Interstate Cooperation in Vocational Education in New England." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To determine the interest in and need for cooperative interstate activities and to identify factors which encourage or restrict development of cooperative interstate activities in the New England states.

Method. The study involved thirty-seven New England educators and agency directors who were involved in or knowledgeable about interstate educational activities. The participants were involved in individual interviews as well as responding to a mail questionnaire about interstate activities. Information was collected concerning:

1. Present cooperative interstate activities.
2. Potential areas recommended for interstate action.
3. Laws, policies, and regulations which inhibit or encourage interstate action.
4. Personal reasons staff members do not participate in interstate activities.
5. The importance and utilization of suggested planning-operation procedures to be used in cooperative activities.

Findings. State commissioners of education, vocational teacher-educators, post-secondary (two-year) directors, vocational education directors, and regional agency directors, believe that interstate action is or can be beneficial in conducting vocational education activities. Thirty-four existing interstate agencies or activities were identified and evaluated as to structure, staff, and funding. It was found that many activities had started as terminal projects and during operation had become established as permanent agencies. There was also evidence that substantial numbers had been started as a result of Federal funding with little or no state money involved. Substantial interest was shown in future interstate

development of Education Information Systems, Curriculum Information Centers, and Evaluation Teams with Research and In-Service Education also receiving high ratings. The respondents suggested eighty activities which have potential for interstate action. These included administrative as well as service type activities involving state department, college and university, two-year post secondary, and local education personnel. Laws, policies and regulations do not appear to be the major factors restricting interstate action but there is much staff reluctance to becoming involved. Time, staffing, communications, leadership, initiative, lack of understanding, threat to personal survival, loss of independence, and general indifference appear to be serious inhibitors to interstate action.

3- Beals, Aaron E., An In-Depth Evaluative Study of the Vocational Horticulture Programs in the Secondary Schools of Indiana. Dissertation, Ph.D., 1974. Library, Purdue University, West Lafayette, Indiana.

Purpose

The primary purpose of this study was to evaluate the programs, facilities, equipment, instructional preparation of the faculty, and the students and graduate population of the vocational horticulture programs in Indiana high schools.

Method

Indiana schools offering two or more years of vocational horticulture courses along with their students and graduates made up the populations studied. Data was gathered by means of school visits and questionnaires completed by students and graduates of the programs. One way analysis of variance programs were used in testing 156 interactions between the teachers, students and graduates in terms of: entry into a horticultural job, level of job entry, job satisfaction, satisfaction with horticultural training, desire for further education, and recommendation of horticultural programs to others.

Findings

The relatedness of the vocational horticulture program to the students' plans and hours of horticulture completed by the teacher significantly affected students' satisfaction with the horticultural classes completed. Student satisfaction and relatedness of training to student plans significantly affected the recommendation of the program to others. The students' desire for additional education was significantly affected by teacher age and student leadership experience.

The graduates' hourly wage rate on the first full-time job and relatedness of the job significantly affected their recommendation of the program. Their

desire for additional education was significantly affected by teacher age, hours of inservice education on the part of the teacher and hours of horticulture completed by the teacher. The graduates' level of job entry was affected significantly by the job preparedness and relatedness of the first full-time job.

The major recommendations included these: Schools desiring to provide successful vocational programs should hire teachers who have had work experience in horticulture and at least 18 semester hours in the field. In addition, the school should provide a wide variety of facilities and equipment for the program.

4- BENDER, Ralph E. The 1974 Occupations of Recent Graduates of Vocational Agriculture in Ohio. Staff Study, 1974, The Ohio State University, Columbus.

Purpose. To identify the occupations of one and five-year graduates of vocational agriculture in Ohio as of March 1, 1974.

Method. A survey was directed to approximately one-third of the teachers of vocational agriculture in the 14 supervisory districts. Returns were received from 68 departments concerning 1,370 students.

Findings. Sixty-one per cent of the graduates of vocational agriculture in Ohio out of school one year were in farming and non-farm agricultural occupations. The graduates out of school five years had 57 per cent so engaged. A total of 34 per cent of the graduates out of school one year and 31 per cent of those out of school five years were farming. Approximately 45 per cent of the farmers were farming on a full-time basis. More than four of each five (85 per cent) graduates in farming were doing so on the home farm.

The percentage of graduates involved in non-agricultural work the first year out of school was 30 compared to 38 per cent for those out of school five years. A large proportion of their occupations required aptitude and ability in mechanics; however, some of the common types of employment involved skills in working with people. This has been typical of the occupational opportunities for vocational agriculture graduates throughout the years.

Eighteen per cent of the graduates out of school one year were in college or technical schools. Of this group, 50 per cent were pursuing additional study in agriculture. Only 1.3 per cent of the graduates were unemployed.

5- BLACKLEDGE, Dale J. "Communication with Urban Low-Income 4-H Club Leaders." Master's Thesis, 1974, The Ohio State University, Columbus.

Purpose. This study described the present communication methods used by Ohio 4-H Agents with low income urban 4-H leaders for particular types of messages and activities. The study also assessed the opinions of the agents and leaders as to the most useful and the frequency of use of the communication methods.

Method. The methodology used in the study included an interview schedule listing 21 different types of communications used by 4-H Extension Agents. Questions concerning the types of communications used by 4-H Agents with leaders were developed in four areas: Project teaching, member activities, filling out written reports, and developing members leadership abilities. The 4-H Leader and 4-H Agents were asked to select the top three communication methods in each area. The 4-H Leader also ranked the usefulness and frequency of use of each method used by the 4-H Agent.

Findings. The findings showed that different communication methods were selected by both groups depending on the area of teaching. 4-H literature was ranked first by both groups when teaching leaders about 4-H project teaching. Newsletters ranked first as being most useful in teaching leaders about 4-H activities. County-wide training meetings were ranked first by both groups in teaching leaders about 4-H member leadership ability. 4-H leaders felt the personal visit was most effective in teaching leaders about completing written reports.

Spearman rank correlation was computed on the usefulness and frequency of use of the methods comparing agents and leaders. The correlation between the leader and Agents ranked was .87 on the usefulness and frequency which is significant at the .01 level.

The study showed that leaders had definite preferences of types of communications they liked. 4-H Extension Agents could be more effective if they would use more of the preferred communication methods when working with low-income urban 4-H leaders.

6 - BREEDLOVE, Frank L. "Teacher and Student Assessments of the Performance Capabilities of Graduates of Agricultural-Industrial Equipment Mechanics Curricula in Joint Vocational Schools." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. This study concerned estimates by students and teachers of the performance capabilities of students completing two-year agricultural-industrial mechanics programs in Ohio joint vocational schools. It also served to provide information concerning the nature and scope of the mechanics curriculum taught in these vocational schools.

Method. An instrument was developed to sample both student and instructor responses relative to student performance capability and the instructional program provided in each joint vocational school.

Agricultural supervisors located in 14 vocational schools throughout the state administered questionnaires to a 50 per cent random selection of graduating students of 16 mechanics classes. Instructors completed a similar questionnaire concerning the instruction offered and estimated the performance capability of the selected students.

Findings. Generally, instructors described students as able to perform most service manager tasks and all service mechanic duties relating to the maintenance and operation of shop tools. More than three of four students were considered able to operate and adjust large power units, service power transmission assemblies, set-up and adjust tractors, demonstrate and deliver tractors and trucks and demonstrate communication and human relation techniques basic to employment.

Generally, less than 75 per cent of the students were considered by instructors as able to perform at desired levels the following tasks: overhaul electrical, diesel engine fuel, hydraulic, transmission, and emission

control systems, set-up and adjust production agriculture equipment and industrial equipment, specialty crop harvesting and processing equipment. Students were also considered less competent in reference to general partsman's duties, salesman's tasks, demonstration and delivery of related agricultural and industrial equipment, basic communications techniques and major front office duties and tasks.

Generally, student self-assessments of their performance capabilities were higher than instructor assessments in reference to tasks of the service manager, service mechanics tasks and the maintenance and operation of power tools and hand tools, specialized welding procedures, small engine tune-up procedures, overhauling emission control systems, assembly and set-up of the skid steer loader, and all partsman's duties. Students also indicated that they were more capable than did their instructors in reference to selling equipment, appraising used equipment, demonstrating and delivering farm tractors, trucks, planting and harvesting machinery, communications techniques relating to accepting instructions, interviewing for a job, communicating orally with another person, using basic mathematics, instructing individuals and small groups and writing business letters.

Student self-assessments were generally lower than instructor estimates in reference to adjustment and maintenance of power transmission systems applicable to belt and chain drive assemblies, completing retail orders, maintaining customer files, using wash-out sheets, presenting brief speeches, conducting business meetings, and demonstrating personal qualities such as respect, trust, responsibility and a favorable attitude. Students also described their performance capabilities more conservatively than their instructors in reference to developing employee work schedules, computing interest rates, and credit financing.

7-BROWN, RONALD ADRION. Influences of an Agricultural Career Orientation Unit on the Career Development of Selected Junior High School Students. Thesis, Ed.D., 1974, Library, University of Illinois, Urbana, Illinois.

Purpose. To determine the effect of an agricultural career orientation unit on the knowledge of occupational information in agriculture and attitudes toward work of selected junior high school students.

Method. Participants in this study were selected for the following categories as intact classroom groups:

1) Career Orientation group
2) First-Year Agriculture group
3) Control group

A total of 342 students in these three groups completed two instruments on a pre-test and a post-test basis with the career orientation group undergoing a nine-week treatment period. The two instruments used were the Career Maturity Inventory, Attitude Scale developed by Crites in 1973 and the Agricultural Occupations Knowledge Test developed by the writer.

Data from these instruments were used to calculate residual gain scores which were analyzed by means of the analysis of variance and coefficient of correlation. The analysis of variance technique was used to determine the difference between the three treatment groups on the two instruments when students were grouped according to grade level, location of residence, farm experience, and sex. The coefficient of correlation technique was used to measure the relationship between the number of hours of career orientation activities and residual gain scores.

Findings and Conclusions. Based on the findings of the study, it was concluded that the career orientation unit was a valuable addition to the schools in which it was implemented. This conclusion was made based on findings which included the following:

1. Eighth-grade students in all groups gained significantly more on both instruments than did ninth-grade students. Yet, students in both grades showed increases.

2. When grouped according to sex, career orientation group students achieved significantly greater AOKT gains than did students in the other groups.

3. "Hands-on" type activities suggested by the unit created student interest and motivation.

8- BURCH, Alva LeRoy, Financing FFA Activities in Southwest Kansas. Master's Report, 1973. Library, Kansas State University, Manhattan.

Purpose. The objective of this study was to determine the various types of fund-raising activities used by chapters in the Southwest Kansas FFA District. The study was also designed to find out which activities were the most successful and least successful and why.

Method. Information for the report was obtained through the use of questionnaires which were sent to each instructor in the Southwest District. Twelve of the sixteen schools responded for a 75 percent return. Two of the returned questionnaires could not be used, as new instructors were hired who did not have access to the account books of the previous year.

Findings. A variety of fund raising activities was used by FFA chapters in the Southwest District. A total of twenty-four activities was reported as sources of chapter income by teachers. The three most popular activities were collection of dues, sale of items built in the school shop, and operation of concession stands at ball games. The most successful activities in regard to profit were service oriented in nature. Such activities as slave auctions, fair booths, and meal catering could be considered under this category.

Selling items was the most unsuccessful of fund-raising activities tried by chapters. Competition with downtown merchants, conflicts with other school organizations and inferior products were problems encountered by several chapters. Examples of unsuccessful activities were selling vests, magazines, and unapproved safety equipment. Success of chapter activities depends upon cooperation from all the students. When teachers ranked their students on willingness to work on fund-raising activities the sophomore class was ranked first followed by the freshmen, juniors and seniors respectively.

The main expense items for chapters in the Southwest Kansas FFA District were District dues, FFA supplies, FFA banquet, judging trips, FFA parties, State FFA Convention, community service activities, National FFA Convention, and educational and pleasure trips.

Since the vocational agriculture program trains students for agriculture, fund-raising activities should be agricultural in nature with some educational value. For the activity to be successful, it must involve all the members and not compete with local merchants or other school organizations. Community acceptance of activities is essential and easy to obtain if the activities are worthwhile and meet the needs of the community. Generally the most successful activities are those in which the students are most interested and which are supported by the community. Such activities can be repeated year after year with good results.

9- CLARKE WINFREY STEVERSON. Analysis and Control of Noise Generated by the Radial Arm Saw and Its Relationship to Communication Between Student and Teacher. Thesis, Ph.D., 1974, University of Minnesota. 137 p. Agricultural Education Department Library University of Minnesota, St. Paul.

Purpose. -- To determine the level of noise intensity generated by the radial arm saw and to establish methods of reducing the noise to acceptable levels which would allow normal conversation between student and teacher in the vicinity of the noise generation, and to determine the effect of noise reduction on the effectiveness of verbal communication between student and teacher.

Method. -- The Bruel and Kjaer sound level meter type 2204 with type 1613 octave band filter were used to take sound pressure level and center frequency readings of a Delta Rockwell 12-inch to 14-inch radial arm saw with a 5 horsepower, 3 450 RPM motor. The Harvard University Psycho-Acoustic Laboratory Phonetically Balanced (PAL-PB) word lists seven and eight were administered to 22 individuals who were enrolled in Agricultural Engineering Technology 1020 during the fall quarter of 1973 at the University of Minnesota to obtain data on the effects of reducing noise on speech communication. Barton's "BASIC LANGUAGE," computer program was used to evaluate the attenuation afforded by various earplugs and earmuffs for noise generated by the radial arm saw.

MORE

Findings and Interpretations. -- The major contributors of radial arm saw noise were found to be: 1) overall diameter of saw blade, type of saw blade, number of teeth per blade, and the condition of the blade; 2) impact of the blade on the wood surface; 3) possible aerodynamic disturbance resulting from cutting tooth configuration. The major octave band frequency of the radial arm saw was at the center frequency of 4000 H_z. Some noise reductions within the saw were accomplished by the use of enlarged washers with a foam rubber backing, slotted blades and partial enclosures with acoustical tile. After applying the above techniques, noise levels at the operator's position were still quite high, 90 dBA and above, in some instances, therefore, earplugs or earmuffs were recommended when operating the radial arm saw. The attenuation afforded by various types of earplugs and earmuffs vary with the noise spectra. Therefore, in selecting earplugs and earmuffs for effective noise reduction, a great deal of consideration should be given to the frequency distribution of the noise and the wearability of device. The 22 test individuals understanding of speech was greatly influenced by varied degrees of noise. When noise level was 90 dBA and speech level was 70 dBA, the mean score for the 22 test individuals was 18.7 out of a possible 100 words. But as noise was decreased to 85, 75, and 70 dBA, the mean scores were 45.5, 85.7, and 95.5; respectively. Teaching technique utilized should provide instructions prior to machine operation.

10- COBB, Nimrod. "Inservice Education for Black Teachers of Vocational Agriculture in Alabama." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To (1) identify selected characteristics of black teachers of vocational agriculture in Alabama, (2) determine the extent to which these teachers of vocational agriculture were participating in the program of inservice education, (3) appraise the present status of the program of inservice education for black teachers of vocational agriculture in Alabama, (4) determine the teaching competencies possessed by teachers of vocational agriculture, and (5) recommend procedures for strengthening inservice teacher education in Alabama.

Method. Questionnaires were sent to 83 teachers of vocational agriculture in Alabama. Returns were received from 72.3 per cent of the teachers.

Descriptive statistics such as means, frequency, and percentages were used to describe the characteristics of the sample.

Findings. The following conclusions are based on an interpretation of the data presented in the study:

1. The majority of the teachers were experienced. More than eighty per cent held a Master's Degree compared to seventeen per cent who held a Bachelor's Degree. Forty-two per cent were awarded the Master's Degree over a period of five years as compared to the same percentage for the preceding period of fifteen years. The majority of the teachers attended land-grant institutions.

2. Teachers participated in graduate credit courses in the professional and technical areas and these courses were rated quite helpful by teachers.

3. The majority of the teachers participated in non-credit inservice education on the state, district and county levels. The attendance of the conferences on the national and regional level was extremely limited.

4. There was 100 per cent participation in professional organization as members only. On the local level some teachers were members holding offices and serving on committees.

5. Teachers made visitations and observations of experiment stations, agricultural colleges, teachers other than vocational teachers and other agricultural departments. The vocational supervisor visited all teachers. The teacher trainer made visits to 83 per cent of the teachers; members of agricultural teaching staff visited 58 per cent. Subject matter specialists and technical specialists made visits to 32 per cent and 18 per cent respectively.

6. Evaluation of teacher's program was initiated by fifty-five per cent of the teachers themselves, five per cent were evaluated by others and forty per cent had no evaluation.

11- ERPELDING, Lawrence H., CUMMINS, James E., and BENDER, Ralph E. Agricultural Technician Education in Ohio, 1972-73. Staff Study, 1974, The Ohio State University, Columbus.

Purpose. To identify the characteristics of students in the technical agriculture programs in Ohio and to determine the association between selected student characteristics, success in the program and later success in life.

Method. Data were gathered by questionnaire from 837 students, graduates, employers and dropouts representing a total group population of 1,333. Program information was obtained from technical agriculture teachers. Data were summarized by frequencies, means, and percentages.

Findings. The typical first year enrollee was 19.3 years of age while the ages of enrollees ranged from 17-41. Approximately 29 percent of the enrollees were from farm homes; 47 percent lived in urban residences. Slightly more than 17 percent of the enrollees indicated their fathers were engaged in full-time farming. Almost 64 percent of the fathers had full-time employment in non-agricultural occupations. Approximately 42 percent of the new students indicated their home residence was within 50 miles of their institution and 32 percent said they lived beyond 100 miles. Slightly more than 33 percent of the students commuted. Lack of employment opportunities was given the highest rating by enrollees when they were asked why they continued their education beyond high school. It was reported that friends had the greatest influence upon new enrollees selecting a specific technology for study. Outdoor, manipulative and managerial positions were favored over office and sales work.

Opportunities for advancement, desirable working conditions, personality of employer and opportunity for additional training with the company were listed by second year students in that order as the most influencial factors in selecting a position. Vocational agriculture was rated highest in value

among all high school courses taken. Being an FFA officer or member was rated as the most valuable high school activity by both second year students and graduates.

The majority of graduates were employed in occupations in the technologies for which they were trained. Slightly more than 36 percent of the graduates remained with the employer they had prior to graduation. They also indicated that internship or on-the-job training was the most beneficial aspect of the technician education program.

Lack of money was the reason given by 31 of the 38 students who left the program before completion. Eleven of 30 respondents indicated that leaving the program was not a wise decision.

Employers rated graduates high in cooperation, courtesy and friendliness, integrity, responsibility and dependability. Graduates were rated average or better in all general ability areas.

12- FARRINGTON, William Samuel. "Criterion-Referenced Assessment of Twelfth-Grade Vocational Programs in Agricultural Mechanics." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To describe the level of mastery in agricultural mechanics of twelfth-grade students in Ohio who were (1) completing specialized agricultural mechanics programs in area vocational centers, (2) completing vocational agriculture programs in local schools in districts where area vocational centers are located, and (3) graduating from local high schools but with no instruction in a vocational course. Secondary purposes were (1) to describe how representatives of the agricultural mechanics industry rate the performance objectives proposed for specialized agricultural mechanics courses for appropriateness as required entry level skills for occupations in agricultural mechanics, (2) to describe the accuracy with which teachers can describe their students' level of mastery of agricultural mechanics, and (3) to investigate the relationship between students' level of mastery of agricultural mechanics and selected characteristics of twelfth-grade students.

Method. Five area vocational centers and nine local high schools were randomly selected. Data were collected from twelfth-grade agricultural mechanics students at selected area vocational centers, twelfth-grade vocational agriculture students at selected local high schools, twelfth-grade non-vocational students at selected local high schools, agricultural mechanics teachers, local vocational agriculture teachers, and representatives of the industry employing agricultural mechanics.

Findings. Students graduating from specialized agricultural mechanics programs at area vocational centers achieved at a significantly higher level of mastery on the criterion-referenced agricultural mechanics mastery test than vocational agriculture students in local schools and non-vocational

students in local schools. Over three-fourths of the agricultural mechanics students at area vocational centers performed at the 50 percent or higher level of mastery. One-fourth of the local vocational agriculture students and slightly more than one-fifth of the non-vocational students from local schools mastered 50 percent or more of the mastery items. Teachers tended to overestimate or industry personnel rated less than half of the proposed objectives for specialized agricultural mechanics programs as specifying knowledge and skills that are essential for entry level occupations in agricultural mechanics. Teachers of agricultural mechanics in area vocational centers place more emphasis on those objectives rated "essential" by industry personnel and less emphasis on those objectives rated "not needed" than vocational agriculture teachers in local schools. A higher percentage of agricultural mechanics students at area vocational centers plan to get a job immediately after high school than do students enrolled in local vocational agriculture programs. Specialized agricultural mechanics students at area vocational schools who had been enrolled in vocational agriculture in local schools prior to entering an area vocational center achieved at a higher level on the mastery test than those agricultural mechanics students who had not been enrolled in vocational agriculture in local schools.

13. Ferguson, Gordon Everette. Perceived Importance of Identified Competencies as a Basis for Developing Educational Programs in Small, Rural Agribusiness Management. Thesis, Ph.D., 1973, Michigan State University. 219 p. Library, Michigan State University, East Lansing.

Purpose.--To develop a rank-ordered list of managerial and agricultural technology areas of concepts and/or competencies common to various types of small, rural agribusinesses.

Methods.--The small, rural, agribusiness population studied consisted of managers, management educators, and other professional agricultural workers. Two geographic areas of Michigan, Allegan and Branch counties, and the campus of Michigan State University provided the locations of the groups. The definitions of "small business" used by the Small Business Administration and "rural" used by the U.S. Census (1961) were utilized to broadly describe the population.

Only managers who employed at least 40 percent of their business resources in agribusiness were included in the population and were divided into two categories: managers of production units and managers of supportive agribusinesses. Management educators were divided into three categories: professional management educators, agricultural teachers (including both county extension service employees and vocational agriculture teachers), and other professional agricultural workers.

The total respondents consisted of seventeen expert managers, 10 other managers, 10 agricultural teachers, 12 professional management educators, and 10 other professional workers.

The instrument for collection of data contained three parts: personal information, technical agricultural areas and management function areas. The instrument items were identified through a review of the literature and then revised, deleted and/or added to through review by a jury of experts including, professional agricultural educators, management educators and managers.

The one-way multivariate analysis of variance was used to test for significance of differences between the means of responses by the various groups. Means were computed by applying numerical values to response alternatives: 4=very important; 3=important; 2=of unknown importance; 1=of little importance; and 0=of no importance.

Findings.--Areas, ranked highest to lowest as to relative importance for successful management were (1) communications, (2) goals and objectives, (3) management participation, (4) human relations, (5) planning, (6) standards, (7) individual differences, (8) role definition, (9) evaluation, (10) size, (11) atmosphere, (12) agricultural mechanics, (13) crops and soils, (14) change, (15) control, (16) agricultural economics, and (17) livestock enterprises.

Expert managers' mean responses differed significantly at the .05 level from those of other managers in the importance of "communications"; from the mean responses of agricultural teachers in "human relations"; from professional management educators in the importance of "agricultural mechanics," "management participation," and "human relations"; and from other professional workers in the importance of "size".

There was high agreement among the groups of respondents on the "important" items that should be included in an in-service program dealing with the management function of agribusinesses and with the basic agricultural technology needed. Ninety-six management and agricultural technology program elements from two proposed lists containing 120 items were approved by the respondents for in-service education programs.

14-Foster, Richard Michael. Factors Related to Occupation of Male Graduates of the Guttenberg Community High School. Library, Iowa State University, Ames, Iowa.

Purpose: The purpose of the study was to determine factors leading to the occupations of the 1952 through and including 1972 male graduates of the Guttenberg Community High School and propose possible changes in the high school curriculum to better meet the needs of these students.

Methods: The population studied in this investigation included all male high school graduates for the years 1952 through and including 1972. Data upon which the findings of the study were based was obtained by questionnaire. A total of 271 graduates (80.4 per cent response rate) returned completed questionnaires.

Findings and Conclusions: Of the total number of graduates studied, 57.8 per cent were employed in nonagricultural occupations, 30.2 per cent were engaged in farming, and 12 per cent were employed in off-farm agricultural occupations. Approximately 68 per cent of the graduates were residing within the home or contiguous county, 14 per cent were residing elsewhere in Iowa and 17.7 per cent were living in counties outside of Iowa. Graduates employed in farming had a higher media North-Hatt Occupational Prestige Seale value (74.8) than did those graduates employed in nonagricultural (67.0) off-farm agricultural occupations (52.9). Fifty-nine per cent of the graduates studied had ranked in the bottom one-half of their respective graduating classes. Of these graduates, 70.6 per cent were residing in their home county. Of the graduate's fathers who were engaged in farming at the time of their high school graduation, 81.1 per cent were farm owners and 16.7 per cent were owner-renters. Graduates indicated "chance rather than planning" (39.4%), "previous work experience" (21.0%), and "military training" (11.4%) as the major factors leading to their entry into their present occupation. It was concluded, among other conclusions, that the vocational agriculture program in this school should be revised to emphasize off-farm agricultural occupations, human relations and career planning skills.

15 - FRAGODT, ALVIN LEON, An Evaluation of the Acceptance of a Closed Circuit Television and Telelecture Education Program on Crop Disease Control. Colloquium Paper, M.S., 1974, North Dakota State University of Agriculture and Applied Science. 59 pp. Department of Agricultural Education, North Dakota State University, Fargo.

Purpose. -- The study was conducted to evaluate the reaction of an adult farmer audience and participating county agents to a closed circuit television-telelecture technique using an educational program on crop disease control.

Method. -- The sample used in the survey study included 218 adult respondents of varying ages and educational levels and 15 county agents. Twelve meetings using the closed circuit television-telelecture technique were conducted at eleven locations in North Dakota and one location in South Dakota.

The program on crop disease control presented by closed circuit television was developed by North Dakota State University. The program was shown in three 19-minute television segments and each television segment presentation was followed by the use of telelecture. The telelecture sessions were conducted between adult respondents and plant pathologists at North Dakota State University, Fargo.

Findings and Interpretations.-- Based on this survey, which indicates a degree of acceptability by adult respondents and participating county agents, the following observations may be made:

1. The adult respondents' and participating county agents' reactions to the closed circuit television and telelecture methods in this series of meetings were favorable.
2. The evidence presented in this study using descriptive techniques is not sufficient to determine a specific degree of acceptance. It is recommended, however, that a series of studies on closed-circuit television and telelecture programs be conducted.
3. Future research using the closed-circuit television and telelecture methods should be designed to specifically test reactions of adult respondents and method effectiveness. It is also recommended that evaluation research design be initiated with the development of program offerings.

Availability.-- Department of Agricultural Education, North Dakota State University or interlibrary loan.

16-Garner, Raymond A. Competencies Needed by Students in Agriculture and Natural Resources Education Prior to Student Teaching. Staff Study. Professional Series in Agricultural Education, Number 4, 1974, 17 pages plus appendices. Department of Secondary Education and Curriculum, College of Education, Michigan State University, East Lansing.

Purpose.--To identify professional competencies which majors in agribusiness and natural resources education should have developed before they enter the student teaching experience.

Method.--A check-list of 87 competencies was prepared after interviewing four supervising teachers each of whom had worked with many student teachers. The check-list with its four-point scale for response to each item was mailed to 27 teachers of vocational agriculture in Michigan who have served as supervising teachers. Responses were received from 20 teachers.

The competencies were arranged under nine major areas: (a) instructional planning, 14 items; (b) instructional materials and resources, eight items; (c) conducting instruction, 23 items; (d) supervised occupational experience programs, nine items; (e) working with FFA, six items; (f) evaluating instruction, six items; (g) counseling and guiding students, eight items; (h) maintaining community relations, seven items; and (i) maintaining a professional role, six items.

The teachers responded to the check-list by indicating their opinions regarding the need for the student teachers to have developed each competency prior to student teaching.

They responded by using the following rating scale;

(1) Great need for the competency
(2) Considerable need for the competency
(3) Competency desirable but not necessary
(4) Competency unnecessary

Mean values of the ratings were computed and comparisons made within and between the nine major areas of competencies.

Findings.--Forty of the 87 competencies received a mean rating between 1.00 (Great need for the competency) and 2.00 (Considerable need for the competency). These competencies were from all nine major areas. Composites of these competencies were drawn for each area such as: Be able to plan with clearly stated objectives, appropriate learning activities, and a variety of teaching approaches; be able to justify objectives and complete plans in time for the supervising teacher ot assist with any revisions.

Implications and recommendations were presented for Michigan State University based on not only the study but the authors observations and experiences.

17-Gibson, James Loren. Occupational Competencies Needed by Persons Entering Selected Farming Occupations. Thesis, Ph.D., 1974, Michigan State University. 188 p. Library, Michigan State University, East Lansing.

Purpose.--To provide one basis for defining institutional roles in the less-than-baccalaureate degree career preparation of persons seeking to enter and advance in selected farming occupations. The specific objective was to determine occupational competencies needed by all persons entering farm entrepreneurship, and technician/mid-management level farm employment with special reference to (a) farm size and (b) farm type.

Methods.--Adult farmers, young farmers, county extension directors and experienced high school vocational agriculture instructors from 19 selected Michigan counties comprised the population of the study. A one-fourth sample of dairy farmers and all of the non-dairy adult farmers, totaling 121, was selected from among TELFARM (Today's Electronic Farm Records for Management) Cooperators and was from eight major farm types: dairy, cattle feeding, swine, poultry, cash crop, potato-vegetable, fruit, and general. The 117 young farmers were all of the 133 graduates of the 18-month Michigan State University technical training program for young farmers who completed in 1969, 1970, 1971, 1972, and 1973; resided in the 19 selected counties at the time they were in school; and currently were engaged in farming. The 62 professional educators consisted of 43 teachers of vocational agriculture who were employed in the 19 counties and had more than five years of professional experience; and 19 county extension directors, one per county.

The research instrument was a mailed questionnaire with 54 competency statements grouped into the functional areas of agricultural mechanics, farm management and economics, crop production, livestock and/or dairy production and general (social-personal). The instrument was used in a test-retest situation to determine reliability; and the items were developed through consultation with farmers and professional agriculturalists.

The statistical treatments included frequencies, means, chi-square, "t" test, and Spearman Rank Order Correlation.

Findings.--Sixty percent or more of the adult farmer respondents perceived that 50 of the competencies were necessary for young people entering farm entrepreneurships and only 23 of the competencies were necessary for young people entering technician/mid-management level farm worker positions. Significant differences were observed between adult farmer and agricultural educator perceptions on fifteen competency areas. Professionals tended to differentiate more often on the basis of the performance of competencies associated with specialized types of farming enterprises.

Young farmers and adult farmers agreed in relatively the same proportions about the competencies listed by group, but differed significantly on 35 competencies. More adult farmers felt these competencies would be needed in the future than the experience of the young farmers had shown.

18- Goecker, Allan D., A Study of the Academic Performance of Undergraduate Students Who Entered the Purdue School of Agriculture With and Without High School Vocational Agri-Business Experience. Dissertation, Ph.D., 1974. Library, Purdue University, West Lafayette, Indiana.

Purpose

The major purposes of this study were to evaluate the collegiate academic performance of vocational and non-vocational graduates with similar levels of academic aptitude and to compare performance of vocational and non-vocational graduates with similar home backgrounds.

Method

All 4,389 individuals entering the Purdue School of Agriculture from 1963-72 were the population for the study. Two variables were controlled during the study, aptitude level, and home background. One way analysis of variance, the Scheffe Multiple Range test, and Chi Square were used to test the academic progress of the sub-groups within the population.

Findings

Fifty-five percent of those students who entered Purdue with high school vocational agriculture graduated with a degree in agriculture as compared to only 35.9 percent of those who entered without high school agriculture.

Students with and without high school vocational agriculture earned non-significantly different grades in agriculture as well as non-agricultural courses during the freshman year. The two groups also received non-significantly different grades in all courses completed during their baccalaureate program.

The findings do not support the practice of using a so-called college preparatory curriculum in place of a high school vocational agriculture program in the high schools of Indiana.

19- GROSS, William Ralph, A Follow-Up Study of Riley County High School Vocational Agriculture Graduates, 1960 - 1971. Master's Report, 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this report was to determine the occupational status of the Vocational Agriculture graduates of Riley County High School, and to provide data which would be of assistance in determining the value of Vocational Agriculture program to the graduates on the job and in the home. An additional purpose was to determine what other areas of training the graduates perceived as needed.

Method. Information was obtained by sending a questionnaire to each graduate with three or more years of Vocational Agriculture. Questionnaires were returned by forty-eight of the eighty-five graduates. The major findings indicated that thirty-five of the forty-eight graduates (73.2 percent) were engaged in farming, part-time farming, or agriculture-related occupations, and thirteen or 24.2 percent were in non-agricultural occupations.

Findings. It was found that graduates in farming, part-time farming, and agriculture-related occupations placed a higher value on the Vocational Agriculture areas of instruction for use on the job than graduates in non-agriculture jobs, with the exception of social security. When the same areas of instruction were evaluated according to use in the home, graduates in non-agriculture jobs valued instruction in the use of power tools of greater importance than those engaged in farming.

It was found that twenty-five of the forty-eight (52 percent) graduates surveyed continued their education beyond high school. Nineteen of these twenty-five (96 percent) either completed or are presently pursuing their educational objectives.

It was found that of the former students engaged in farming or agriculture-related areas, 64 percent were married while 76.9 percent of those in non-agriculture related areas were married. It was found that 50 percent of those engaged in full-time farming had an annual salary of $8,000 or more, while only 30 percent of those in non-agriculture areas were over $8,000.

In response to what part of Vocational Agriculture courses were most helpful, it was found that Agricultural Mechanics was rated most helpful with FFA and record books following closely. FFA was rated as the most important extra-curricular activity with band as least important.

20- HILL, Glenwood F. "The Attitudes of Tobacco Farm Operators Regarding the Relationship Between Smoking and Health." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To investigate the relationships between tobacco farm operators' attitudes toward the smoking-health controversy and (a) the nature and scope of their farm operation, (b) changes in their farm operation since 1965, and (c) selected characteristics of the farmers. The objectives of the study were: (1) to describe the farmers' attitudes about smoking in general; (2) to describe the farmers' attitudes about smoking as it relates to health; (3) to investigate relationships between farmers' attitudes toward the smoking-health controversy and: (a) age of tobacco farmers; (b) the tenure of tobacco farmers; (c) the tobacco farmers' level of education; (d) the tobacco farmers' level of production; (e) experience with family diseases supposedly linked to smoking and (f) the type of farm operation: farm owner, share-cropper, tenant.

Method. The population consisted of a stratified random sample of all tobacco farm operators that grew flue-cured tobacco in North Carolina, Virginia, South Carolina, Georgia, Florida, and tobacco farm operators that grew burley tobacco in Kentucky, Tennessee, Virginia, North Carolina, Indiana, West Virginia, Ohio, Georgia and South Carolina. Sample included 300 tobacco farm operators from each group. Excluded were all tobacco farm operators from Highland County, Ohio because this was the site selected by the investigator to field test the instrument. Excluded from the population were tobacco farm operators with incomplete names and addresses.

Findings. Attitudes of flue-cured and burley tobacco farm operators were favorable toward smoking. The overall attitude was unfavorable about the smoking-health controversy.

The attitude differential between flue-cured and burley tobacco farm operators about the smoking-health controversy was not statistically significant.

21- HUNG, Nguyen Thanh, Factors Which Affected the Choice of the Agricultural Education Major at Kansas State University, 1973. Master's Report, 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to identify the factors which affected the choice of the Agricultural Education Curriculum. This report included a comparison of the factors in the selection of a college major as identified study by Mr. Terry D. Fanning in 1969. The writer of this report tried to identify any changes which may have taken place from 1969 to 1973 in the selection of Agricultural Education as a college major.

Method. The questionnaire used in this study contained 14 items and was designed to measure the student's background, factors which influenced the selection of the Agricultural Education major, suggestions for the choice of college majors, and the interest of students in international agriculture. All Agricultural Education majors hereafter referred to as Ag Ad majors were selected as the sample for this study. Sixty-six of 81 or 81 percent of Ag Ed majors who were enrolled at Kansas State University in the 1973 Fall semester indicated which factors affected them in the selection of their college major.

Findings. The results of this study indicated the changes which had taken place during the last five years from 1969 to 1973 in the selection of the Agricultural Education major. These changes were as follows:

1- Forty-two percent of the majors changed to the Agricultural Education curriculum since they enrolled in college compared to 44.3 percent in 1969.

2- Seventy percent of Ag Ed majors selected their college major when they were in the senior year of high school or later compared to 67 percent in 1969.

3- The years of the schooling of the mothers of Ag Ed majors had decreased from 12.8 years in 1969 to 12.5 years in 1973 while the fathers' schooling had increased from 11.4 years to 11.7 years.

4- Seventy percent of Ag Ed majors lived on farms in 1973 compared to 93.3 percent in 1969.

5- The percentage of Ag Ed major who had good opportunities to go back to farming from 63.3 percent in 1969 to 60.7 percent in 1973.

6- The percentage of relatives of Ag Ed majors who involved in Agri-Business had increased from 23.3 percent in 1969 to 27.3 percent in 1973.

7- The most influential persons in the selection of the Ag Ed major were: vocational agriculture instructor, father, and mother in 1969 compared to vocational instructor, father, and others in 1973.

8- The most important factors in the selection of Agricultural Education as a college major in rank order were:

Rank order 1969	Rank order 1973	Factors
4	1	Have had background and experience in this area.
2	2	Greater chance for self-satisfaction from work.
1	3	This area best prepares me for future employment.
3	4	Like to work with people.
5	5	The field appears to be expanding.

The last part of the report was devoted to determine the interest of the Ag Ed majors in various areas of Vocational Agriculture, important employment consideration, and their interest in international agriculture. Findings of the study indicated the following:

1- Ag Ed majors preferred Animal Science, Crops, and Soils Horticulture, and Ag. Mechanics in that order.

2- Vocational Agriculture teaching, farm and ranch operation, agricultural extension were ranked as the most important employment considerations in the selection of the Ag Ed majors.

3- Forty five percent of Ag Ed majors were interested in international agriculture. They preferred to work in this area because of involvement with people, service to undeveloped countries, and working conditions.

22- HYLE, Dwight E., A Study to Determine the Number of Annual Entry Opportunities in Production Agriculture for Kansas. Master's Report, 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the number of annual entry opportunities in production agriculture for Kansas. The objective was to identify the number of farming opportunities by county and state with $20,000 or more annual gross income.

Method. To determine the number of entry opportunities in production agriculture a method was used which was developed by the Agricultural Economics Department of Oklahoma State University. The method used involved the determination of entry opportunities based upon the number of farm opportunities with $20,000 to more gross income. Information needed to determine the entry opportunities was taken from the 1969 Census of Agriculture, Volume I, Part 21, Kansas, Sections 1 and 2. The number of farms with gross incomes of $20,000 or more, and the number of units of $20,000 gross income which would be possible from the consolidation of the remaining farm units with gross incomes of less than $20,000 was entered into the formula along with the number of hired farm workers to give the total opportunities in production agriculture.

After the gross number of farming opportunities was obtained the following approach was used to calculate the number of farmers which would be needed annually. The number retiring annually was determined by taking the average age of the farmers and calculating the number above the average age which would retire by the age 65. Insurance tables were used to determine the number who die or become disabled. Retirement, death, and disability numbers were totaled to get the annual opportunities for production agriculture for each county and the state.

Findings. There were 20,998 farms in Kansas which had gross incomes of $20,000 or more with the possibility of 54,570.16 units of $20,000 gross income after consolidation. Kansas had 8,649 hired farm workers for 150 days or more. This gave 84,217.16 employment opportunities in production agriculture for Kansas. There were 3,011.16 who retired annually and 410.79 who died or became disabled. Thus there would be 3,428.56 annual opportunities to enter production agriculture in Kansas due to retirement, death and disability.

23- JEFFIERS, David Carroll. "Educational Needs Perceived by Ohio 4-H Volunteer Leaders in the Wapakoneta Extension Area." Master's Thesis, 1974, The Ohio State University, Columbus.

Purpose. The objectives were to determine the perceived educational needs of Ohio 4-H club leaders in the Wapakoneta Extension Area and their preferred methods for receiving training.

Method. Usable returns came from 251 (77.5%) of the 324 leaders mailed questionnaires from a population of 1566.

Finding. Among topics of a general nature, leaders needed the most help with: parent cooperation, awards program, information about helps for doing the job, and using junior leaders. The greatest need concerning the organization of a club was with planning the year's program. Engineering and veterinary science were the project areas where the needs were the greatest. Trips, tours and achievement meetings along with community service projects were the greatest needs in the activity leader category. Sixty-one per cent of the leaders performed organizational, project and activity roles rather than divide these responsibilities. Leaders who worked with experienced co-leaders felt a greater need for training than leaders who worked without experienced co-leaders. Male leaders indicated a greater need for help with planning the year's program, duties of the officers, and organizing a club than did females. Leaders preferred to receive educational help by the methods of bulletins, handbooks and leader guides, newsletters, newspaper articles, and tape recorded information illustrated with slides.

24- JENKINS, David D. Inventory of Professional In-Service Training Needs - Ohio Cooperative Extension Service. Staff Study, 1974, The Ohio State University, Columbus.

Purpose. To identify the professional in-service education needs of Extension faculty.

Method. A survey was mailed to all Extension faculty. Each person was asked to offer written responses under ten major program components as to what he or she envisioned individually as the most critical professional in-service training needs. A total of 205 Extension faculty responded and reflected 582 written comments for technical subject matter training and 317 written responses for assistance with Extension programming and administrative operations. Data were profiled as frequencies and described narratively.

Findings. The majority of responses offered by agricultural agents emphasized a need for help with farm management, computer programming related to agricultural production, interdisciplinary approaches to farm and family economic decisions, and the marketing of livestock, dairy, and grain.

Home economists expressed a need for updated information, research findings and new developments that related to food preservation, food preparation and storage of foods. Additional information on consumer economics was perceived as being an important need. New changes and technology related to improved family living were expressed as a high priority in-service training need.

The overall administration, organizing and handling of 4-H programs locally was perceived as an important professional training need by several faculty. This included an emphasis on volunteer leadership, working with program assistants, guidelines for member and project evaluation.

12

Several agents expressed a great need for help in organizing CRD study committees, working with county, area or regional planning groups, expanding community facilities and analyzing local change in community structure and organization.

Many Extension faculty perceived continuous need for further help in the administering and managing of programs and personnel; gaining expertise in involving committees, groups and individuals in determining program priorities; and mobilizing and using effective individual, group, and mass media communication methods.

25- KOWALKA, Ronald C. "The Instructional Utility of an Electrical Wiring Manual Determined by Criterion-Referenced Assessment with Ninth Grade Vocational Agriculture Students." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To assess the instructional utility of a student manual concerning basic electrical wiring when used with ninth grade students of vocational agriculture. A subsidiary purpose was to determine the attitudes of students and teachers concerning the usefulness of the manual.

Method. A quasi-experimental adaptation of the Solomon Four-Group Design was utilized. The student was the unit of analysis. Independent variables were (a) use of the student manual and non-use of the student manual and no other instruction on electrical wiring, (b) time required by the students to complete study of the manual, (c) students' reading and manipulative abilities as perceived by the teacher, and (d) length of time to complete the test. Dependent variables were the students' posttest score and student mean rating on an opinionaire regarding usefulness of the manual for the treatment group.

Twelve intact classes of vocational agriculture students in central Ohio were randomly assigned to treatment and control groups. One class was later eliminated.

Findings. Pretest scores revealed that students in the treatment and control groups had little prior knowledge about electrical wiring as presented in the manual. The use of the student manual was an effective aid to the learning of basic electrical skills by students in the study. The results indicate students were better able to learn manipulative abilities than written abilities through study of the manual. Posttest scores were not related to time spent studying the manual nor to length of time students spent completing the test. AA

Teachers' perceptions of students' reading and manipulative abilities were positively related to the scores students achieved on the criterion-referenced tests. The opinions of students toward usefulness of the manual had no relationship to posttest scores.

Students and teachers were favorable toward the usefulness of the manual. Teachers tended to consider the student manual as more useful than other manuals on electricity and electrical wiring and also as a very effective aid in teaching the subject. Teachers and students believed the photographs in the manual were very helpful in making content meaningful.

26- LAHMERS, Robert W. "Program Responsibilities and Training Needs of Ohio 4-H Program Assistants." Master's Thesis, 1974, The Ohio State University, Columbus.

Purpose. On January 1, 1973 a new position, 4-H Program Assistant was added to the 4-H staffing pattern in the 4-H program in Ohio. Major responsibilities of the new addition included: Expanding the 4-H Program to more youth and involving more youth in Community Resource Development. This study was designed to look at 4-H Program Assistants perceptions of task priorities, accomplishments, and training needs.

Method. There were 96 4-H Program Assistants who were the population receiving the questionnaire. Of these nearly 70 per cent returned usable data.

Findings. As a result of the findings in this study the following conclusions are listed:

1. 4-H Program Assistants perceive the tasks in 4-H expansion consistent with the intent of the program. The most important is one of organizing new 4-H groups followed by recruiting 4-H leaders. In working directly with 4-H members, day camp was perceived as the most appropriate method.

2. 4-H Program Assistants do not understand 4-H Community Resource Development or their responsibilities in that area.

3. 4-H Program Assistants desire more in-service training.

4. 4-H Program Assistants have moderate experience in youth membership and leadership, are relatively young, well educated and have some employment experience. These characteristics have no apparent effect on perceptions of appropriate tasks.

27- LOTZ, Larry D. "The Attitudes and Learning Levels of a 4-H Audience to the Use of Educational Television." Master's Thesis, 1974, The Ohio State University, Columbus.

Purpose. The objectives of this study were to 1) determine the attitudes of a 4-H Extension audience to the utilization of educational television by the Cooperative Extension Service in comparison to in-person instruction, and 2) determine any differences in the level of audience learning between the two types of instruction.

Method. It was hypothesized from the review of related literature that the 4-H audience would accept the use of ETV in a favorable manner and that there would be no significant difference in audience learning levels between the two methods of instructions. The procedure used to test the hypotheses was to present a 4-H Junior Leadership program to 4-H adult leaders and junior leaders by two methods: in-person and televised.

Findings. Following analysis of a posttest, major conclusions were 1) 4-H adult leader and junior leader audiences would accept the utilization of ETV by the C.E.S. and 2) no significant difference between 4-H adult leader learning levels occurred whether the instruction be by television or in-person. Other findings were that the 4-H leader's background had no affect on attitude toward ETV and the 4-H leaders and junior leaders considered the future use of ETV by the C.E.S. to have good potential.

28- LUFT, Vernon Dale. "The Development of Guidelines for Recruitment Programs in Agricultural Education." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To develop guidelines for teacher recruitment programs for University and State Departments of Agricultural Education in the United States.

Method. Mail questionnaires were developed to collect data from head state supervisors of agricultural education, teacher educators of agricultural education, and to students enrolled in agricultural education.

Findings. Findings were: 1) Most of the university agricultural education students had formerly studied vocational agriculture in high school, been members of the FFA, and have a farm background. 2) A large majority of students will use occupational information concerning agricultural education if it is available to them in their high schools. 3) An inadequate supply of vocational agriculture teachers is a problem facing many states. 4) Recruitment in agricultural education is a responsibility of teacher educators, state supervisors, and vocational agriculture teachers. 5) Most state supervisory staffs do not have individuals assigned the responsibility of recruiting. 6) Vocational agriculture courses at the secondary level will influence its enrollees to major in agricultural education in the university. 7) There is no single time when students choose agricultural education for a college major, but the choice is made at varying times during their educational process. 8) People that have an influence on agricultural education students' choice of college major are vocational agriculture teachers, parents, college professors, friends and relatives. 9) Vocational agriculture courses, employment experiences, experience in FFA, and publications dealing with careers in agricultural education are the factors

that influence agricultural education students' choice of college curriculum. 10) Recruiting practices that have the most influence on agricultural education students' choice of college major include personal interviews with an agricultural education professor, teaching units on opportunities in agricultural education, tours of universities and agricultural education departments, recruiting brochures and pamphlets. 11) The most likely sources from which to recruit prospective vocational agriculture teachers are university graduates other than agricultural education, business and industry, and technical education graduates.

Guidelines were developed pertaining to the methods of recruiting which teacher educators and state supervisors in agricultural education should most often utilize; the people with whom teacher educators and state supervisors should work to influence students to choose agricultural education for their major; the sources from which to recruit agricultural education students and/or teachers; and the assignment of people responsible for the task of recruiting.

29- McCRACKEN, J. David; NEWCOMB, Lawrence H.; and MOORE, Gary E. Development of a System for Determining Inservice Education Needs of Teachers. Staff Study, 1974, The Ohio State University, Columbus.

Purpose. To develop a system for collecting and analyzing demographic data, graduate education status, and graduate education needs of vocational agriculture teachers that could be used in planning inservice course offerings by The Ohio State University.

Method. An instrument was designed for use in collecting data concerning demographic information and graduate courses. Courses outside of the Department of Agricultural Education were listed to determine the extent of demand for technical courses in Animal Science, Agronomy, Agricultural Engineering, Natural Resources, Agricultural Economics, and Horticulture.

Members of the staff reviewed the instrument and several graduate students completed the instrument to determine how much time was involved and suggest needed revisions. The supervisor in each district administered the instrument during his May district meeting. This collection procedure resulted in a ninety percent response rate.

A letter was immediately mailed to the teachers who had not been able to attend the district meetings asking them to complete the instrument. This follow-up produced an additional five percent response. The remaining non-respondents were contacted at the state agriculture teachers' conference in July and asked to complete the instrument. Cards were coded and punched. The SPSS computer package was used.

Findings. The following information was obtained:

1. Frequency count of demographic data such as number of teachers desiring graduate courses, types of teaching certificates held, the graduate status of teachers, and the number of teachers needing courses to be re-certified.

2. A cross tabulation showing how many teachers in each of the 14 vocational agriculture districts in Ohio indicated they would enroll in given graduate courses.

3. A list of teachers per district who indicated they would enroll in a given course.

This information retrieved from the data bank was used to decide what courses to offer for the 1974-75 school year as well as the location of the courses.

Several steps will be involved in keeping this data bank current.

1. During the summer all new teachers will fill out the questionnaire which in turn will be fed into the data bank.

2. At the end of each quarter teachers who have taken courses, received an advanced degree, or moved to another district will have their computer cards pulled out of the deck and a new data card will be inserted.

3. Whenever a teacher retires or leaves teaching, his card will be pulled from the computer deck.

30- McGHEE, Maxie B. "Attitudes of Superintendents, Principals, County Vocational Directors, and Guidance Counselors Regarding Vocational Agriculture in the Public Secondary Schools of West Virginia." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To identify and describe the attitudes of superintendents, principals, county vocational directors, and guidance counselors regarding vocational agriculture in the public secondary schools of West Virginia.

Method. Data were obtained through a mail questionnaire to all superintendents, principals, county vocational directors, and guidance counselors in those counties with public junior and senior high schools and/or vocational schools offering vocational agriculture in West Virginia. Included were two Likert attitude scales developed to assess attitudes regarding: (1) vocational agriculture, and (2) teachers of vocational agriculture. The scales were pilot tested in Ohio and were then subjected to item analysis and further refined before employed in the study. A second part of the instrument was designed to measure level of understanding regarding the primary goals and objectives of vocational agriculture. A third part of the instrument was designed to collect pertinent data concerning selected characteristics of the respondents. One hundred percent of the questionnaires were returned. Statistical techniques used in analyzing data included one-way analysis of variance, product-moment correlation, point-biserial correlation, and Spearman rank order correlation.

Findings. All four groups studied had generally favorable attitudes toward vocational agriculture as well as toward teachers of vocational agriculture. Each respondent group had similar attitudes on both measures and there were significant positive relationships between the two attitude measures for all four groups studied. There was a generally accurate

understanding of the primary goals and objectives of vocational agriculture by the four groups. Positive relationships were found between attitudes of county vocational directors and guidance counselors toward vocational agriculture and their level of understanding of the goals and objectives of the vocational agriculture program. When attitudes of principals and guidance counselors toward vocational agriculture were compared with the quartile effectiveness rankings of departments and teachers by teacher educators and state supervisors, significant positive relationships were found between the rankings and principals' attitudes. Relationships were found between attitudes toward vocational agriculture and membership or non-membership in various professional associations. These particular relationships varied with the particular group studied. There were positive and negative relationships between attitudes of the groups toward vocational agriculture and various instructional areas of certification indicated by the respondents.

31- LINDAMOOD, John Benford. "Evaluation of External Information Needs of Ohio Dairy Firms." Ph. D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To examine the needs, sources, and utilization of external information by small, medium and large local proprietary dairy firms in Ohio.

Method. An executive officer of each of thirty-seven firms was interviewed to determine (a) the types of external information thought to be essential in the operation of local proprietary dairy firms, (b) the extent to which managements' needs for external information was being satisfied, (c) the sources of external information regularly utilized by local proprietary dairy firms, (d) preferences for methods of acquiring external information, (e) the importance of information on selected issues confronting the dairy industry in the conduct of business, (f) whether local proprietary dairy firms which ranked high on satisfaction of needs for external information also ranked high on selected indicators of plant performance and (g) whether firm size had an observed relationship with managements' perceptions of the need for external information. Managements' needs and satisfaction of needs for information in three major areas, milk supply, plant operations, and management were identified.

Findings. It was found that categories of information which ranked high on need and low on satisfaction of needs included performance standards, employee selection and training, budgeting and profit planning, price and pricing, communications, packaging and labeling, marketing and sales, loss control, distribution, product defects, raw milk quality, the milk or cream supply situation, and milk accounting. Results of the study show that (a) the preferred methods of obtaining external information were published information highlights and personal consultation; (b) all size categories

of firms recognized that external information on selected issues confronting the dairy industry was important to them in the operation of their businesses but they were not in agreement on the relative importance of the issues; and (c) the more regularly used sources of external information were government agencies, industry associations, commercial firms and commercial publications, whereas, the more valued sources were industrial associations, educational institutions, commercial firms, newspapers and popular magazines and information services. Association between the satisfaction of needs for external information and selected indicators of plant performance was not significant at the .05 level of confidence. However, association between firm size and managements' perception of the need for external information on the milk supply and plant operations was significant at the .05 level.

32- MAQUIRE, CHARLES J. An Investigation of the Effectiveness of a New 9th Grade Career Exploration Curriculum on Vocational Agriculture Students in Minnesota, 1971. Thesis, Ph.D., 1973, University of Minnesota, Minneapolis.

Purpose.--(1) To find out if students who were exposed to career exploration instruction as outlined in a Minnesota State Department of Education 9th grade curriculum guide, Exploring Agribusiness and Natural Resource Occupations, exhibited measurable superiority over students in a control group when compared on the basis of knowledge of occupations. (2) To compare the effectiveness of an audio-visual variation of the new curriculum with the new curriculum itself. (3) To ascertain if a change in learning in the area of career information had occurred during the period of the research project.

Method.--Pre- and post-tests were given to 9th grade vocational agriculture students in randomly selected schools throughout the state in September and December 1971. Twenty-seven schools completed a University of Nebraska test on knowledge of occupations and twenty-eight schools completed a test on knowledge of occupations developed by the researcher. Data were subjected to analysis of variance and t-test investigation.

Findings.--Results showed that students exposed to the new curriculum guide did not show superiority over students in the control group. Students who used an audio-visual variation of the new curriculum performed no differently than those who followed the new curriculum only. Pre-post analysis of school mean scores showed no improvement in knowledge of occupations for the control group. A similar analysis for the new curriculum and audio-visual version of the new curriculum showed fifty percent in each group registering an improvement and fifty percent showing no change.

The following recommendations were made: (1) The Exploring Agribusiness and Natural Resource Occupations curriculum guide should be revised to make it more attractive for teacher use. (2) Up-to-date support materials--slide sets, film strips, films, printed materials, and samples of successful career teaching materials from teachers in the field--should be made available to supplement the curriculum guide. (3) Teacher preparation at the university level should include a strong background in career education. Teachers in the field should have access to in-service courses to bring them up-to-date on developments in career education techniques. (4) Consideration should be given to incorporating career awareness and orientation into grade levels other than the 9th.

33- MC PHEARSON, JR., JESSE LEWIS. A study of Eye Safety Protection in Vocational Agriculture Secondary School Programs in Minnesota. A Colloquium Paper. M.A., 1973, University of Minnesota. 92 p. Agriculture Education Library, University of Minnesota, St. Paul.

Purpose. -- To determine the extent to which eye safety protection is provided and utilized in vocational agriculture secondary school programs in Minnesota.

Method. -- A questionnaire, designed and pretested by the investigator, was used to collect data from a stratified random sample consisting of 50 percent of the single-teacher vocational agriculture departments, 50 percent of the multiple-teacher vocational agriculture and all of the vocational agriculture student teaching centers during the spring quarter of 1973. The questionnaire consisted of 36 questions designed to determine: (1) information about the shop and teacher; (2) extent of teacher awareness of eye safety legislation; (3) local eye safety protection policies; (4) methods of financing eye protection; (5) level of compliance; (6) extent of disinfection of eye wear; (7) type of eye wear commonly used; and (8) types of storage facilities provided for eye protection devices. One hundred and fifty-nine departments were selected for the survey. A total of 148 returned questionnaires.

Findings and Interpretations. -- The study revealed that the teachers who participated in the study were interested in eye safety protection for their students but in many cases were not fully aware of the specific requirements of the Minnesota Eye Safety Act. Administrators and school districts indicated little active concern for eye protection in the schools. Approximately eighty-eight percent of the administrators in the districts surveyed had not provided their teachers with a written eye safety policy for their classes. The majority of the teachers wanted additional help and directives from the State Department of Education that would help them gain support in implementing their eye safety programs. Forty-three percent of the teachers were violating the Minnesota Eye Safety Law in some respects. Eighty-eight percent of the teachers reported that there had been no eye injuries requiring medical attention. Fifty-one percent of the teachers never sanitized eye protective devices and thirty percent of the teachers did not feel that their students were adequately protected from eye hazards.

The following recommendations were made: (1) The Agricultural Education and Agricultural Engineering Departments of the University of Minnesota should continue to provide prospective teachers, new teachers, and out-of-state teachers with training for providing effective eye protection programs. (2) The State Director of Vocational Education and the

Supervisor of Agriculture Education should provide teachers with information and assistance that will aid in providing effective eye protection. (3) The school administrators and teachers must work together to establish an effective eye protection program with adequate local policies and financial support.

34- MC PHEARSON, JR., JESSE LEWIS. A study of Eye Safety Protection in Vocational Agriculture Secondary School Programs in Minnesota. A Colloquium Paper, M.A., 1973, University of Minnesota. 92 p. Agriculture Education Library, University of Minnesota, St. Paul.

Purpose. -- To determine the extent to which eye safety protection is provided and utilized in vocational agriculture secondary school programs in Minnesota.

Method. -- A questionnaire, designed and pretested by the investigator, was used to collect data from a stratified random sample consisting of 50 percent of the single-teacher vocational agriculture departments, 50 percent of the multiple-teacher vocational agriculture and all of the vocational agriculture student teaching centers during the spring quarter of 1973. The questionnaire consisted of 36 questions designed to determine: (1) information about the shop and teacher; (2) extent of teacher awareness of eye safety legislation; (3) local eye safety protection policies; (4) methods of financing eye protection; (5) level of compliance; (6) extent of disinfection of eye wear; (7) type of eye wear commonly used; and (8) types of storage facilities provided for eye protection devices. One hundred and fifty-nine departments were selected for the survey. A total of 148 returned questionnaires.

Findings and Interpretations. -- The study revealed that the teachers who participated in the study were interested in eye safety protection for their students but in many cases were not fully aware of the specific requirements of the Minnesota Eye Safety Act. Administrators and school districts indicated little active concern for eye protection in the schools. Approximately eighty-eight percent of the administrators in the districts surveyed had not provided their teachers with a written eye safety policy for their classes. The majority of the teachers wanted additional help and directives from the State Department of Education that would help them gain support in implementing their eye safety programs. Forty-three percent of the teachers were violating the Minnesota Eye Safety Law in some respects. Eighty-eight percent of the teachers reported that there had been no eye injuries requiring medical attention. Fifty-one percent of the teachers never sanitized eye protective devices and thirty percent of the teachers did not feel that their students were adequately protected from eye hazards.

The following recommendations were made: (1) The Agricultural Education and Agricultural Engineering Departments of the University of Minnesota should continue to provide prospective teachers, new teachers, and out-of-state teachers with training for providing effective eye protection programs. (2) The State Director of Vocational Education and the

Supervisor of Agriculture Education should provide teachers with information and assistance that will aid in providing effective eye protection. (3) The school administrators and teachers must work together to establish an effective eye protection program with adequate local policies and financial support.

35-Miller, Clay Andrew. Experimental evaluation of the effectiveness of different methods of teaching truss rafter construction. Unpublished M.S. Thesis. Iowa State University, 1974, 72 pp.

Purpose: To determine if there is a significant difference in measurable classroom achievement related to truss construction between students taught using various methods of instruction. The methods of instruction used were as follows:

T_1 - Traditional lecture - discussion

T_2 - Individualized instruction

T_3 - Slide presentation to the group

T_4 - Use of skill procedure sheets

T_5 - Use of skill sheets along with slides

Method: The study included those students enrolled in Agriculture Mechanics 255 at Iowa State University during Fall Quarter of 1973 and Winter Quarter 1974.

A general information sheet, pretest, and post-test were administered the sample of 125 students.

Analysis of variance and analysis of covariance using the f ratio, t-test and coefficient of correlation tests were used to analyze the data.

Findings: No significant difference was found in measurable student achievement among treatment groups attributable to the use of any of the 5 methods of instruction tested. A highly significant ($P<.01$) difference was found between pretest and post-test scores for all 5 of the instructional method groups.

Prior high school experience in vocational agriculture or industrial arts did not significantly affect measurable student knowledge of truss

construction.

Coefficients of correlations failed to show any significant correlation between either previous training in truss construction or previous number of trusses constructed and measurable student knowledge of truss construction.

36 - MOORE, Eddie Albert. "Professional Education Competency Needs of Three Groups of Vocational Agriculture Teachers in Ohio." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To seek professional education competency needs and related information from the following groups of vocational agriculture teachers in Ohio: (1) Four-year college graduates with a major in agricultural education (professionally prepared teachers), (2) Four-year college graduates with majors in technical agriculture (non-professionally prepared teachers), and (3) Non-college graduates recruited from business and industry (non-professionally prepared teachers).

Method. Data were collected through mail questionnaires and personal interviews. The 269 participants were teaching vocational agriculture in local high schools and area vocational centers in Ohio during the 1973-74 school year. There was an 83 per cent return from four-year college agricultural education majors, 75 per cent return from four-year college technical agriculture majors and 100 per cent responses from non-college graduates recruited from business and industry.

Findings. Four-year college agricultural education majors and four-year college technical agriculture majors agreed that the competency areas of management, guidance, and professional role and development were more important in being or becoming a successful vocational agriculture teacher at the secondary level than the other seven competency areas. The non-college graduates perceived the competency areas of guidance, planning of instruction, coordination, management, execution of instruction, and professional role and development as the areas which were most important in being or becoming a successful vocational agriculture teacher.

Four-year college agricultural education majors possessed the highest degree of proficiency in the competency areas of student FFA organization, guidance, and professional role and development. They were least proficient in the areas of program planning, development and evaluation; and coordination. Four-year college technical agriculture majors were more proficient in the competency areas of guidance, management, and professional role and development. These teachers were least proficient in the areas of coordination; program planning, development, and evaluation; and student FFA organization.

Four-year college agricultural education majors were in need of in-service professional education training in the competency areas of coordination, management, and professional role and development. Four-year college technical agriculture majors were in need of inservice professional education training in the areas of coordination, management, planning of instruction, and program planning, development, and evaluation. Non-college graduates were in an urgent need for in-service professional education training in all 10 competency areas.

37-Okorie, John Umaji. The Impact of Agricultural Education on Farm Production in Eastern Nigeria. Library, Iowa State University, Ames, Iowa.

Purpose: The primary purpose of this study was to determine the influence of agricultural education (formal and informal) on farming practices used in Eastern Nigeria.

Methods: The population for the study included 200 farmers, 100 graduates from agricultural schools engaged in extension work, 200 secondary school students and 46 agricultural science teachers. Farmers included in the study were selected from the Nsukka and Umuahia regions. Extension workers were selected for each of the ten zones. Agricultural science teachers and secondary school students were selected from the rosters in the Ministry of education. Data was collected from the above groups by use of questionnaires.

Findings and Conclusions: Mean age of all farmers studied was 44.3 years. Thirty-one per cent of the farmers had no formal education, whereas 52.0 per cent had attended only elementary school. Eighty-five per cent indicated a willingness to attend evening or day classes. Of the farmers studied, 31.7 per cent expressed much interest in learning how to read and write, 78.4 per cent expressed much interest in learning better farming methods, and 77.0 per cent expressed little or no desire to study about tractors and farm equipment. Sixty-five per cent of the extension workers were dissatisfied with the progress of agriculture in Eastern Nigeria. Of the agricultural science students, 14.3 per cent expressed a desire to become farmers, and 15.0 per cent expressed a desire to become agricultural officers. Approximately 96 per cent of the teachers had included some aspect of agriculture in their preservice training. Fifty-eight per cent of the teachers favored practical farm experience as a part of their instructional programs. Approximately 70.0 per cent of the teachers believed that there were little or no opportunities for agricultural students to become established in the occupation of farming. It was concluded, among other conclusions, that more agricultural technical schools be established, year round programs be established for farmers, and incentives established to encourage young peoples to enter farming as an occupation.

38 - PALMER, Rodger E., The Development of an Agribusiness Program at the Secondary Level for the Duluth Public School System. A Colloquium Paper, M.A., 1974, University of Minnesota, Agricultural Education Library, University of Minnesota, St. Paul.

Purpose. To tie together the determined needs (if any were found) of the agribusiness employers and the individual student, in a secondary level agribusiness program for the Duluth Public School System.

Method. The study was based on data collected from the use of two survey forms: 1) Agribusiness Employment Opportunities and Training Needs survey form, and 2) Ohio Vocational Interest Survey. The first survey was used on 96 agribusiness firms (35% sample) in Duluth to determine basic employee need figures over a two year period. The second survey was administered to 1,404 students in the twelfth grade and 1,708 ninth grade students in the Duluth Public School system to determine their occupational plans and vocational career choices. Additional data was obtained from agribusiness and professional leaders in the community on a personal interview basis.

Findings. Full and part-time job opportunities in agribusiness in Duluth were shown to be 124 annually for the period studied. Over 100% of all students surveyed indicated a desire for agriculturally related vocational training, with this figure reaching 21% in the male population sort. Additional data found the horticulture segment of the agribusiness industry to be economically significant in Duluth based on new sales and employee payroll.

Conclusions and recommendations call for the establishment of a secondary agribusiness program in Duluth with a major emphasis on horticultural training. Recommended courses include basic horticulture, nursery production, horticultural equipment mechanics, natural resources and forestry, cooperative work-experience program and an agribusiness exploration unit at the ninth grade level of careers studied.

39- PARKER, Kenneth Alfred. "Perceptions of Urban School Administrators, Teachers and Students Enrolled in Vocational Agriculture Concerning the Programs, Policies, and Activities of the FFA Organization." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To describe the opinions of urban school administrators, teachers of vocational agriculture, and students enrolled in vocational agriculture concerning the policies, programs and activities of the FFA organization for urban youth enrolled in vocational agriculture.

Method. Respondents were students, teachers and administrators who were involved with secondary school vocational agriculture programs in urban areas throughout the United States during the 1972-73 school year. A frame of 309 urban secondary schools was constructed, from which 103 schools were randomly selected.

Findings. Urban students, teachers and administrators do not hold similar opinions concerning most of the policies, programs and activities of the FFA organization. Urban teachers tend to agree with the current policies, programs and activities of the FFA organization while urban students and administrators tend to agree or disagree on subjects concerning the current policies, programs and activities depending on the size of the urban area, their agricultural background and other characteristics unique to each group. Students tend to join or not join the FFA based on whether or not the organization sounds interesting to them. References to farming in FFA ceremonies and activities were found to be a major source of differing opinions within all groups. Most of the awards currently offered by the FFA are applicable for urban students of vocational agriculture according to urban teachers. Responses of teachers and administrators indicate a need for more undergraduate preparation concerning the FFA for prospective teachers of

vocational agriculture in urban schools. All groups felt that the FFA is of value for urban youth even if they do not plan on entering an agricultural occupation.

There was a difference in opinions regarding the FFA between respondents in small and large urban school districts in several of the areas investigated. In all such cases, students, teachers and administrators in large urban school districts tended to disagree to a greater extent with the current policies, procedures and activities of the FFA than students, teachers and administrators in small urban school districts.

PROJECT SUMMARY

40 - Phipps, Lloyd J. Developing and Utilizing Community Resources, supported jointly by the State of Illinois Division of Vocational and Technical Education, Springfield, Illinois, and the University of Illinois, Champaign-Urbana, Department of Vocational and Technical Education.

PURPOSES: The project was designed with the specific aim of assisting educators and school administrators with the effective utilization of all available resources in their communities in the conduct of viable vocational-technical education programs. Toward this end, a practical guide, directing teachers and school administrators in the development and utilization of resources at their disposal, was published.

METHODS: Through a process of in-site visitations, the Rurban Educational Developmental Laboratory of the Department of Vocational and Technical Education of the University of Illinois identified and selected a series of four educational institutions effectively utilizing community resources as model centers. Working in conjunction with these four institutions located throughout the state, the project attempted to provide visibility for these model centers. A program for on-site visitations was then established, allowing teachers and school administrators to visit the model centers over an extended period of time.

Simultaneously, the REDL staff published a manual, THE CRU SYSTEM: A Manual for the Development and Utilization of Community Resources.

The manual offered definitions of community resources; a system for the identification of such resources; methods for the development and the utilization of the resources identified; and an evaluation process to ascertain the educational viability of the resources. The manual was available to all four of the model centers as well as the REDL Laboratory at the University of Illinois, Urbana-Champaign.

CONCLUSIONS: The project attempted to provide concrete suggestions and recommendations through THE CRU MANUAL, as well as exemplary sites to be visited by educators currently considering or involved in the development of Career Education concepts and programs. Developing programs should incorporate broad objectives which project beyond the classroom and into the community, utilizing community resources as instructional content. These resources potentially provide a rich, unique quality which is essential to program success. Community resources, properly and fully utilized as supplemental to the educational experience, may provide the key to community support for education; the door to a fulfilling educational experience; and the avenue through which students may encounter a successful and satisfying future.

The publication, THE CRU SYSTEM, and the educational endeavors of this project, in conjunction with the many publications of the Division of Vocational and Technical Education, Springfield, Illinois, provide a framework for the development of viable vocational-technical education programs.

AVAILABILITY: The manual, THE CRU SYSTEM: A Manual for the Development and Utilization of Community Resources, is presently available at the

Illinois Curriculum Materials Center, Division of Vocational-Technical Education, 216 East Monroe Street, Springfield, Illinois.

41- PITTMAN, Joe D. "Effectiveness of Extension Service Programs in Selected Staffing Patterns as Perceived by Clientele." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To determine the effectiveness of three common types of staffing patterns employed by the Extension Service throughout the United States as observed and perceived by clientele in the program areas of Agriculture, Home Economics, 4-H Youth, and Community Resource Development.

Method. The information utilized in this study was collected by mail questionnaires from a sample of 1800 randomly selected clientele from three states which represented the three common staffing patterns.

Frequencies, percentages, standard deviations and multiple regression analysis were used to analyze the data.

Findings. Generally, in the agriculture and 4-H youth program areas the clientele perceived no difference on program effectiveness. In some phases of the community resource development and home economics program areas, clientele perceived no difference on program effectiveness. However, in other phases of these two program areas, the area-county and county-only staffing patterns were perceived as being more effective than the multi-county staffing pattern. Age, education, and income did not affect the respondents' perception of program effectiveness. For the program development processes of conducting an evaluation, the county-only staffing pattern respondents were more satisfied than those of the other two staffing patterns. For the planning process, no differences were found between the area-county staffing pattern and the other two patterns. However, the county-only staffing pattern respondents were more satisfied than those from the multi-county pattern.

The county-only staffing pattern respondents were more satisfied with their staffing pattern than were the respondents from the other two patterns.

74

The county-only staffing pattern respondents perceived that staffing pattern as being more responsive, and the information provided as being more helpful than did the respondents from the other two staffing patterns.

Adopting an area type staffing pattern should not be relied on to increase clientele perception of program effectiveness or satisfaction with the program development process. However, an area type staffing pattern may well be a desirable way to meet organizationally and politically acceptable needs.

42- RATHBUN, Larry Peter. "The Relationship Between Participation in Vocational Student Organizations and Student Success." Ph.D. Dissertation, 1974, The Ohio State University, Columbus.

Purpose. To investigate the relationship between the extent to which a student participates in a vocational education student organization and his development of the personal qualities of leadership, citizenship, character, willingness to accept responsibility, confidence in self and work and cooperative spirit and effort. A second purpose was to investigate the relationship between the extent to which a student participates in a vocational education student organization and his post-high school employment success.

Method. Data were collected by mail questionnaires from 894 high school senior students of vocational education programs who lived in four different states. Follow-up mail questionnaires resulted in acquisition of data from the high school vocational education instructor, employer or college advisor and parents of these students regarding their perception of student development of leadership, citizenship, character, responsibility, confidence and cooperation. Data were also collected from the students six months after high school graduation to assess employment success.

Findings. Results of chi square tests for independence indicated significant relationships at the .05 level between level of participation in activities of the vocational education student organization and all dependent variables. Students who were more active were perceived by their instructors, employer or college advisor, and parents as having higher levels of ability in leadership, citizenship, character, responsibility, confidence and cooperation than students who were less active. Employment success was found to be significantly related at the .05 level to level of participation and length of training. Students who were more active in the vocational education

student organization or who were enrolled in the training program for a greater number of years enjoyed greater employment success than students who were less active or enrolled for fewer number of years. Employment success was not found to be significantly related to sex, age, socio-economic status, high school grade average or school location.

Multiple regression analyses revealed that high school grade average and level of participation were the two consistently strongest predictor variables of student development of leadership, citizenship, character, responsibility, confidence and cooperation as perceived by the high school instructors. Length of training program, length of membership in the vocational education student organization and level of participation were the three strongest predictor variables of student performance on the six personal dependent variables as perceived by employers or college advisors and parents.

Multiple regression analysis also indicated that length of the vocational education training program, level of participation and length of membership in the vocational education student organization were the three strongest predictor variables of employment success.

43- RIAT, Lawrence Dean, An Analysis of the Training Needs of 4-H Community Leaders as Perceived by 4-H Leaders, Agents, and State Specialists. Master's Thesis, 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the training needs of 4-H community leaders as perceived by leaders, County Extension 4-H Agents, and State Extension 4-H Specialists.

Method. All the 4-H community leaders in fifteen randomly selected counties were included in the study. Three hundred fifty leaders were mailed questionnaires, of which two hundred forty-five, or seventy percent, were returned and used. All thirty of the County Extension 4-H Agents and the eight State Extension 4-H Specialists were included.

Findings. Hypothesis 1 stated that there was no difference in the rank order of training needs of 4-H leaders as perceived by leaders, agents, and specialists. This was supported when leaders were compared to agents, but rejected when rankings of leaders and specialists or agents and specialists were compared.

When comparing consensus among the three respondent groups, Kendall's coefficient of concordance or W was significant at the .01 level, retaining the null hypothesis.

Hypothesis 2 hypothesized no difference in the rank order of training needs of 4-H leaders when compared by tenure, amount of formal education, place of residence, occupation, sex, 4-H membership, age, number of training meetings attended, and number of days devoted to 4-H.

All comparisons were significant at the .05 level except on the variable as to whether leaders had been 4-H members. On this variable, the hypothesis was rejected.

Hypothesis 3 stated there is no difference in the rank order of methods preferred by leaders, agents, and specialists. Comparisons with Spearman's coeffieicnt of rank-difference correlation or rho were significant at the .05 level. Kendall's coefficient of concordance was significant at the .01 level. The hypothesis was retained.

Community 4-H leaders and County Extension 4-H Agents agreed significantly as to the training needs of 4-H leaders. The amount of agreement between leaders and specialists or agents and specialists was not significant.

There was little difference when leaders were compared by years of experience, level of formal education, place of residence, number of training meetings attended, or the number of days devoted to the 4-H Club program. The age of leaders, occupation, sex, and whether leaders had been 4-H members showed the least agreement in the study,

although there was no significant difference except on the variable as to whether leaders had been 4-H members.

Community 4-H leaders, County Extension 4-H Agents, and State Extension 4-H Specialists agreed significantly as to the methods by which leaders prefer to receive training.

44- RICER, Lawrence Thomas, Jr. "Educational Programming Needs for Beef Producers using Different Forage Feeding Systems in Monroe County Ohio." Master's Thesis, 1974, The Ohio State University, Columbus.

Purpose. (1) To determine the producers' perceptions of selected characteristics of their principle winter and summer forage feeding systems. (2) To determine the anticipated change in the number of beef cows and the anticipated ways of harvesting forage in Monroe County in the next five years. (3) To gain an indication of the preferred informational sources of the beef cow-calf producers.

Method. A questionnaire was designed to collect data as to the characteristics of the respondent and his farm enterprise, winter and summer forage feeding systems, agronomic forage practices and preferred informational sources of the respondent.

A list of beef cow-calf producers was obtained from the Extension Office files and from a list of consigners to local feeder calf sales. The questionnaire was mailed to a total of 284 Monroe County cow-calf producers. A total of 109 questionnaires were returned. Ultimately, there were 76 usable questionnaires which represented 26.7 per cent of the original 284 questionnaires mailed.

Findings and Conclusions.

1. Beef cow-calf numbers may be expected to increase in Monroe County in the next five years.

2. The majority of the beef cow-calf producers in Monroe County were using the conventional winter feeding system. The use of the winter pasture concept of feeding cattle has been adopted to some degree by 20 per cent of the producers.

3. Beef cow-calf producers anticipated purchasing new and versatile forage harvesting equipment applicable to their principle winter pasture feeding systems.

4. Beef cow-calf producers perceived printed material and group meetings as being primarily the most valuable source in obtaining information about the beef industry.

45- ROEDIGER, Roger D., Project Director. Curriculum Development Basic to the Training of Individuals for Employment in Agribusiness, Natural Resources, and Environmental Protection. USOE Project OEC-0-72-4677, 1974, Ohio Career Education and Curriculum Management Laboratory in Agricultural Education, The Ohio State University, Columbus.

Purpose. The purpose of the project was to develop and validate ten curriculum guides for Career Education in Agribusiness, Natural Resources, and Environmental Protection.

Method. The project staff completed three major tasks which included:

(1) Identifying the major Agribusiness, Natural Resources and Environmental Protection occupational categories and the principal occupations within each major category.

(2) Determining the state of the art in curriculum development in the various categories of Agribusiness, Natural Resources and Environmental Protection.

(3) Development of ten curriculum guides for teacher use in Career Education in Agribusiness, Natural Resources, and Environmental Protection at the following grade levels:

    (a) K-6 to develop career awareness

    (b) Grades 7-9 to provide for career exploration, and

    (c) Grades 10-12 to focus upon preparation for agricultural careers.

Findings. The curriculum development phase of this project was completed in June of 1974 with the publication of field test editions of the ten curriculum guides. One guide each was prepared for the Awareness (K-6) and Exploration (7-9) stages through sub-contract to The Center for Educational Studies, School of Education, Eastern Illinois University, by Ms. Dorothy Lawson and her staff.

One Career Preparation (10-12) guide was developed for each of the eight occupational areas included in the Agribusiness, Natural Resources, and Environmental Protection clusters. These occupational areas include: Agricultural Production, Agricultural Supplies and Services, Agricultural Equipment and Mechanics, Agricultural Products (Food Processing), Ornamental Horticulture, Agricultural Resources, Forestry and Environmental Protection. Each preparation guide defines a curriculum which is based upon the competencies needed by entry level workers in the occupations. Related competencies are stated in terms of student performance objectives and are grouped into small curriculum units which can be deleted, shifted, or organized to fit unique state or local curriculum needs. The objectives are used as a basis for the content of the instructional units which also include suggested instructional areas, student learning activities, evaluation processes, instructional materials and supporting references. Suggested facilities and equipment, teacher preparation and use of advisory committees are also included in each guide.

In June 1974, the project received a two-year extension and additional funding through June 14, 1976, for the purpose of field testing in schools, each of the ten curriculum guides. This new phase of the project has Dr. J. Robert Warmbrod and Dr. Max B. McGhee of The Ohio State University serving as Principal Investigator and Project Director respectively.

46- I. ROST, Larry D., "A Study Determining the Effects on Teacher-Student Interaction When Wearing Hearing Protectors as an Abatement Device for Noise Control". Dissertation, Ph.D., 1972. Library, Purdue University, Lafayette.

Purpose. The porpose of this study was to determine the effects of wearing hearing protective devices on teacher-student verbal and nonverbal interaction in laboratory conditions. The population was limited to teachers and students in welding laboratories located in Indiana's Area Vocational Technical Schools having central facilities.

Method. The research design selected for data collection was a pretest-posttest nonequivalent control group design. A sample ($n = 9$) was drawn and the nine teachers with their intact morning and afternoon classes participated. Each teacher and one class was assigned to the experimental treatment of wearing hearing protective devices. The teacher and the other class served as control.

The independent variable manipulated and assigned by the experimenter was the wearing of hearing protective devices. Ear plugs were selected as the independent variable. The dependent variable was teacher-student interactive outcomes as measured by trained observers using Loepp's (1970) validated Industrial Arts Interaction Analysis System.

An analysis of differences in means utilizing t-values between the posttest experimental group and posttest control group was made after establishment of the two groups pretest equivalency. A non-significant t-value was generated when a test was made on each of the twelve categories of interaction.

Findings. The finding of no significant differences in means between posttest experimental and control groups led to the conclusion that wearing of hearing protective devices, ear plugs, as a noise abatement control did not significantly alter or affect the amount of communication between a teacher and his students.

47- SAAH, Maurice Kwamina. "Review and Synthesis of Research on Agricultural Education in Developing Countries." Ph.D. Dissertation 1974, The Ohio State University, Columbus.

Purpose. To develop a reference for students, scholars and producers and consumers of research in agricultural education pertaining to countries other than the United States.

Method. The population of studies comprised dissertations, theses and staff studies on file in United States colleges and universities offering programs in agricultural education. These were studies listed in Dissertation Abstracts International and Summaries of Studies in Agricultural Education. The listing was supplemented with computer searches utilizing the facilities of the Mechanized Information Center at The Ohio State University. The criteria used to select the studies were (a) the research was initiated and/or wholly or partly conducted in the United States; (b) the research was about a country with a developing agricultural economy; and (c) the report was available to researchers and students in the United States. Of the 70 studies 35 were on Asia, 17 on Africa, 11 on Latin America and seven on the Near East.

Findings. The emphasis of the research relating to Latin America and Near East regions was in the area of extension education. Studies relating to the Africa and Asia and Far East regions were heavily concentrated in the subject areas pertaining to the formal agricultural education systems of the countries. A significant finding was that the emphasis of the studies appeared to be influenced by the specific interests of the sponsors of the investigator's graduate study and the activities of international agencies in the respective countries.

The types of research were predominantly descriptive consisting of surveys (46 per cent), correlational and case studies (48 per cent), experimental (three per cent) and historical (three per cent). Sampling techniques used included both probability and non-probability methods and censuses. In 25 studies sampling procedures were not reported. Interviews, questionnaires, content analysis and standard tests were the data gathering instruments utilized. Content analysis was the most frequently used instrument, followed by questionnaires and interviews. Standard tests were used in only two studies. The most common techniques of data analysis identified were analysis of variance, t-test, correlational and regression analysis, chi-square and percentages. Several combinations of these techniques were employed depending upon the interpretation sought from the data.

48- SHARMA, SHIB PRASAD. A Study of the Influence of a Curriculum in Occupational Exploration in Agribusiness and Natural Resources, and Other Related Factors on the Occupational Knowledge of 9th Grade Vocational Agriculture Students. Thesis, Ph.D., 1973, University of Minnesota, 136 p. Library, University of Minnesota, Minneapolis, Minnesota.

Purpose.--A new curriculum guide for developing courses on occupational exploration for 9th grade vocational agriculture was introduced in Minnesota in 1970. The purpose of this study was to assess the extent of acceptance and use of the new curriculum guide by vocational agriculture teachers; and to assess the influence of the curriculum (new and old), location of school (urban and rural) and background (farm, farm-off-farm influence, and non-farm) on students' knowledge of agricultural occupations.

Method.--Two kinds of test instruments were developed based upon objectives of the 9th grade curriculum guide to assess the extent of teachers acceptance of the new 9th grade curriculum guide; and students knowedge of agricultural occupations. They were validated by a panel of experts and were field tested before being used to collect data for the study. Eighth graders who had preregistered for the 9th grade vocational agriculture course acted as control group for 9th grade vocational agriculture students in each test school. In all 528 eighth graders, 726 ninth graders, and 37 vocational agriculture teachers from schools located within a 75 mile radius of the metropolitan center of St. Paul-Minneapolis, Minnesota were involved in this study. Data was collected just before summer vacation of 1973. Responses of teachers with respect to the content and the process of the 9th grade vocational agriculture program and the influences of student background on knowledge of agricultural occupations were studied using descriptive statistics. Influences of curriculum and school location on student knowledge were studied using a repeated measures design.

Findings and Interpretations:--Results indicated that: (1) Fifty three percent of vocational agriculture teachers based thirty percent or more of their instructional program according to the recommendation of the new curriculum guide. (2) An average vocational agricultural teacher spent one third of his instructional time in 9th grade in occupational exploration of which only 22 percent was used for out-of-class instructional activities. (3) There was no significant influence of the curriculum and school location on students knowledge of agricultural occupations. (4) The farm-off-farm influence group had the highest mean score and the non-farm group the lowest on the test of knowledge about agricultural occupations. (5) Students in the non-farm group made the most progress during the course period and farm-off-farm influence group the lowest.

49- SIEKMAN, Dana M., A Descriptive Analysis of the Curriculum in Vocational Agriculture in Selected Public High Schools in Nebraska (For the School Year 1972-73). Master's Report, M.S., 1974. Library, University of Nebraska, Lincoln.

Purposes. The purpose of the study was to determine content and emphasis placed on identified units of instruction provided by the Vocational Agriculture Departments in Nebraska.

The overall hypothesis of the study was to determine the relationship, if any, between teachers as community factors and the amounts of instruction in subject matter units offered in Vocational Agriculture.

Method. Data was collected at a summer conference in which 112 out of 147 instructors in Nebraska filled out the questionaire. The five categories of the curriculum surveyed were: (1) Animal Science, (2) Agricultural Management and Economics, (3) Agronomic Science, (4) Agricultural Mechanics, and (5) Rural Leadership and Careers. Using a Matrix Sampling Technique, each instructor was asked to complete a questionaire dealing with 2 out of the 5 categories listed above.

For analysis purposes, the State of Nebraska was divided into four geographic areas.

Findings. Eighty-one percent of the instructors (who responded to the questionaire) were reared in Nebraska with a majority of the instructors having a diversified farm background.

The University of Nebraska Agricultural Education Department provided 77.7 percent of the Voc-Ag Instructors. The rest of the instructors came from various Midwestern states. Although some instructors had been teaching Vocational Agriculture for over 30 years, the average tenure of Nebraska instructors was 7 years, with nearly 85 percent of them doing graduate work beyond a Bachelor of Science degree.

Farm students out-number Agri-Business students by almost 2:1 in every area of the state. Average enrollment per instructor in Nebraska was 60.1 students with 41.5 living on farms.

The mean hours of instruction provided by Vo-Ag instructors was 1140 hours. Traditional areas of Animal Science (19.44 percent), Agronomic Science (19.33 percent), and Agricultural Mechanics (31.93 percent) accounted for 70.7 percent of the total instruction provided. These categories in all areas of the state comprised over 60 percent of the instructional time, with Agricultural Management and Economics and Leadership and Careers accounting for the remainder.

Few of the personal background variables and the amount of instruction in the Vocational Agriculture curriculum were significantly related. A highly significant relationship existed between graduate courses dealing with Agri-Business and the amounts of instruction in corresponding Agri-Business areas. (such as Horticultural plants and Landscape Planning)

It is concluded from this study that Vocational Agriculture instructors that have taken advanced coursework tend to teach more hours in corresponding subject matter areas.

It is concluded from this study that inventories are feasible in analyzing Vocational Agriculture curriculums.

50- SNOOK, Marilynne R. "Expanded Food and Nutrition Education Program Aide Attitudes and Behavior toward Teaching Homemakers in Groups." Master's Thesis, 1974, The Ohio State University, Columbus.

Purpose. Due to the thrust in group formation practices in the Expanded Food and Nutrition Education Program in the early 1970's, a comparative study of nutrition aide attitudes and behaviors toward group formation and maintenance was undertaken for guidance in program direction and training. This study utilizes part of the baseline data gathered for the Federal Extension Project entitled, "Evaluation of the Use of Group Dynamics Training in the Expanded Food and Nutrition Education Program." The major purposes of this study were to compare the demographic characteristics, attitudes, program activities and group participation of nutrition aides receiving various amounts of in-service group dynamics training.

Method. Included in the study were all 70 of the EFNEP aides from the Canfield, Fremont and Mt. Gilead Extension Areas in Ohio. This included 27 aides from the Canfield Area (Treatment), 20 aides from the Fremont Area (Control I), and 23 aides from the Mt. Gilead Area (Control II). Each study area received a different amount of group dynamics methods training.

From the 67 item questionnaire, developed and administered by the researchers for the Federal Project, only 29 items dealing with aide characteristics, attitudes and behavior were used for this study. To compare likenesses and differences for the Treatment and Control groups the following data treatments were used: Frequencies and percentages; mean and mode scores; the F Test for significance; the Pearson Correlation Coefficient Analyses and the Multiple Regression Analyses.

Findings. It was found that nutrition aides from the three areas were similar in the demographic characteristics gathered. For all the aides, the annual family income was found to be $7,015; the average length of aid tenure was 3 years and 7 months; the average age was 38.8 years; and black aides outnumbered white aides 2:1. None of the demographic characteristics or the program activities were found to be significantly different between the areas.

Findings, however, did indicate that there were significant differences between the areas for attitudes the aides held concerning self-acceptance, while the differences were not significantly different for attitudes toward change or attitudes toward group. The overall attitudes of the EFNEP aides in the study indicated that aides want to teach homemakers in groups, while they feel homemakers learn more and homemakers feel better about learning one at a time.

51- STARLING, John T. Farm Business Analysis Report of Programs Conducted by Teachers of Vocational Agriculture. Staff Study, 1974, The Ohio State University, Columbus.

Purpose. To provide teachers of agricultural production courses with some averages, relative to certain efficiency factors, which they can use in planning occupational experience programs and teaching classes in agricultural production.

Method. Ohio teachers who were conducting Farm Business Planning and Analysis programs submitted 348 farm business summaries for computer analysis. Averages of several selected measures of performance from the farm business analyses were used to secure the data for this study.

Findings. The major findings of this study were as follows:

1. The average capital investment per farm was $146,646.00
2. The investment in land alone increased nearly $20,000 between 1972 and 1973.
3. The average gross income per farm was $68,684.00.
4. Even though the average gross income was $68,684.00 there were 37% of the farms with a gross income below $40,000. Farmers needed a gross income of $40,000 in order to have an adequate amount of money for family living, debt repayment, and expansion of the business.
5. Average corn yields were down approximately 25 bushels per acre compared to 1972. However with higher prices farmers realized an average of $42.21 management income and profit per acre.
6. Corn was the most profitable general crop in terms of management income and profit per acre at $42.21. Soybeans ranked second with $32.54 per acre, and wheat third with $31.36 per acre.
7. In general beef cattle feeders made very little money in 1973. However the analysis indicates that the potential gain from lowering feed costs can be substantial. Examples of this are shown in the use of higher roughage rations and the addition of urea to corn silage.
8. In swine feeding operations there was a reduction of over $3.00 per hour from 1972 to 1973 in Return to Unpaid Operator and Family Labor, Management, and Profit. This can be contributed to increased feed cost which nearly doubled between 1972 and 1973.

9. The pounds of 3.5% milk sold per cow and milk production costs per cwt. were most favorable at the 61 to 75 cow herd size. Dairy returns per dollar feed fed remained favorable in this herd size.

52- STREIT, Les D., A Survey of Instructional Media Utilized for Vocational Agriculture and FFA Contest Instruction in Kansas. Master's Thesis, 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the instructional media and materials that vocational agriculture instructors utilize to prepare students for vocational agriculture and FFA contests. The problem was designed to measure the educational value of contests, the instructional media and materials, frequency of media usage, available audiovisual equipment, competencies for equipment utilization, and money budgeted or spent for materials. The study was based on the assumptions that instructional materials for some contests are unavailable and that certain types of media will be preferred and most frequently used in instruction. The results of the study will help to establish criteria for the planning and development of needed materials by individuals, agribusiness firms, and state and university planning committees for vocational agriculture and FFA contests.

Method. A questionnaire was developed to collect data from vocational agriculture instructors in Kansas. The five questionnaire categories were: personal data; educational value of contests; participation in contests; instructional materials available for vocational agriculture and FFA contests; importance and utilization of instructional media and materials; availability and competency to operate audiovisual equipment; and money spent on instructional materials. A total of 152 of a possible 173 questionnaires or 87.9% were returned.

The results of the study indicated that most contest were perceived as being valuable instructional activities. Those ranking most valuable were FFA Public Speaking, FFA Leadership School, Livestock Judging, and Agricultural Mechanics. The contests ranking high in educational value also had more instructional materials available for contest preparation. Traditional types of instructional media ranked higher in importance and were used more frequently than newer types of media. Most vocational agriculture instructors had traditional items of audiovisual equipment available for use and could operate the equipment. Instructors were spending an average of $320.00 per year on all instructional materials and 19% of this amount was spent for contests materials.

It was recommended by the author that a cooperative effort be initiated to develop materials specifically designed for Kansas vocational agriculture curriculums. In-service training of teachers to utilize new types of instructional media and teaching techniques should be emphasized. It was also recommended that further studies be initiated to determine differences in teaching techniques and that the development of instructional materials be initiated in the form of highly visualized print materials, overhead transparencies, filmstrips and slides.

53-Thomas, Ruth, Dennis Moeller, Julie Robinson and Edgar Persons. Job Mobility Patterns for Teachers of Vocational Agriculture in Minnesota. University of Minnesota, 1974

Purpose: The purpose of this study was to determine where teachers move in terms of schools and jobs and to identify the supply sources of replacements or additions to the total population of employed teachers of agriculture in Minnesota.

Method: The population consisted of all teachers of vocational agriculture in Minnesota in secondary and post secondary level public schools who were engaged in the teaching of agriculture for the school years 1969-70 to 1973-74. Data were drawn from the entire population which varied in number each year. Annual lists of instructors kept by the State Department of Education provided the names of the teachers, teaching level, and school location. Lists were cross checked from year to year to determine which teachers had stayed in their same jobs, which teachers had changed jobs and/or schools, which teachers had left agriculture teaching in Minnesota, and which teachers were new to agriculture teaching in Minnesota. Lists of new teachers and those who left agriculture teaching during the five years of the study were circulated among Agriculture Education staff at the University of Minnesota, State Department of Education Agriculture staff and the agriculture coordinators to determine present jobs of the external movers and origins of the new teachers.

Findings: It was found chat agriculture teachers in Minnesota are more likely to remain in their jobs or to leave the profession than they are to move internally. Adult teachers had the most stable job pattern. Post secondary teachers had the highest rate of external mobility. Minnesota gained many more agriculture teachers from other states than it lost to other states during the five years of the study. Results showed a sizeable loss of trained and experienced agriculture teachers in Minnesota at an average rate of 11% of all teachers each year.

54- Determining the Vocational Education Needs of Adult in South St. Paul, Minnesota

Paul F. Thomas
293 words

PURPOSE

Vocational education is charged with serving the educational needs of those employed in occupations not requiring a college degree. This study was designed to develop a questionnaire and evaluate four survey methods for collecting vocational education needs data.

METHOD

A representative sample of the population was obtained through the Census Bureau method. All 7,679 South St. Paul households were located, then ten per cent randomly selected, the householder identified and randomly assigned to a technique. Questionnaire length, advance notification, and response incentive were among the variations.

Paul F. Thomas

Just over 39% of the 763 households sampled replied. The long questionnaire, without incentive or pre-letter was the most effective (response rate) and efficient (cost per response) data retrieval method. The group offered a small incentive provided the lowest rate, highest cost response. Cost of the incentive and low response rate (under 30%) worked against this method's efficiency and effectiveness.

Approximately 20% of all respondents indicated an interest in vocational education. Trade and Industrial courses were mentioned most frequently. Younger respondents wanted longer, more intense courses than did older respondents. Almost one-third of the younger respondents (18-21) indicated an interest in vocational education.

The major reason for desiring vocational education was related to job-preparedness, especially for younger respondents. Family and job obligations were the major impediments to enrolling.

Conclusions of the study included: 1) the Census Bureau method assures a random sample; 2) response rate is related to occupation -- people in lower status, lower paying jobs do not respond as well as those in higher status, higher paying ones; 3) people interested in vocational education will respond without extrinsic reward; 4) a random sample of the population can assist administrators plan courses; 5) personalizing the request -- (commemorative postage stamps and telephone follow-up) increases the response rate; 6) surveys should be conducted periodically.

55- VILORIA, Myrna Javier, A Historical Review of the Development of Extension Education in the United States with Implications to Programming in the Philippines. Colloquium, M.A., 1974. University of Minnesota, St. Paul.

Purpose. In an attempt to provide useful suggestions and recommendations to improve the extension education programs in the Philippines, a review of the current literature about the extension education programs in the United States was undertaken. Although the extension service in the Philppines has been in existence for a number of years, the programming aspect has become the major contributing factor for its slow development. This study, therefore, was aimed at providing a model framework for programming extension work in the Philippines and an explanation of how successful programs in the United States originated through the direction of the program development process.

Method. The data were obtained through a careful historical review of the literature which included books, journals, and annual reports of agricultural extension service. The University of Minnesota, St. Paul Agricultural Library and the Department of Education and Culture in the Philippines were the key data sources. These factual data were compared and studied to determine the problem which interfers with the growth of one's development. A general reference about the "Minnesota Extension Program Development Process" was used as a model framework for this study. This process is fundamental for the work of organization and is useful to Extension educators as they plan, implement and evaluate programs with and for the people. In addition, the State personnel and other related people were interviewed from time to time.

Findings. The Extension Service in the United States was found to be unique in a number of characteristics--in its organizational structure and funding mechanism. It works in a cooperative manner from federal to county level. Its philosophies and objectives were formulated from time to time which gave way to successful programs. Its programming process was studied in depth which served as a complete guide for understanding the development process of extension programs.

Although both countries differ in historical background and organization structure, their programming dimension has a number of commonalities which indicate that the model framework for the programming process would be of high importance and a great contribution to the Cooperative Agricultural Extension Service in the United States and to the Agricultural Extension Service in the Philippines.

56- Walker, Lloyd Leon, Competencies in Entomology Needed by Agribusiness Teachers and Extension Agents. Dissertation, Ph.D., 1974. Library, Purdue University, West Lafayette, Indiana.

Purpose

The major purposes of the study were to identify the competencies in Entomology needed by agribusiness teachers and extension agents and identify how these workers solve their insect problems.

Method

A panel of experts was consulted to develop a competencies list in Entomology. A questionnaire was sent to all agribusiness and extension agents in Indiana. Hypotheses relating to age, experience, entomology courses, area of major, and degree level were tested by use of the Mann-Whitney U, correlational analysis and factor analysis.

Findings

Seven factors were identified in the entomology competencies: insect identification, ecological considerations, basic entomological skills and understanding, making and using insect collections, use of insecticides, interpretative skills, and judgment in the use of insecticides.

Younger workers indicated greater needs than older workers and extension agents rated their competencies possessed higher than the teachers rated their own competencies.

In general the needs of both groups were found to be similar.

57- WARMBROD, J. Robert. Criterion-Referenced Instruments for Assessment of Specialized Vocational Agriculture Programs. (Final Report, Project R-16-73, Division of Vocational Education, Ohio Department of Education) Staff Study, 1974, The Ohio State University, Columbus.

Purpose. To develop and field test criterion-referenced instruments for assessment in eleventh- and twelfth-grade vocational education programs in Agricultural Mechanics, Horticulture, Agribusiness Supplies and Services, and Farm Management.

Method. Behavioral objectives were developed for each of the four instructional programs. Items for the criterion-referenced tests were developed by the project staff then reviewed and revised by teachers and supervisors in area vocational centers and local schools. Twelve mastery tests (including a total of 934 items) were field tested with 420 students in 16 area vocational centers and 10 local schools.

Findings. Content validity of the instruments was established through the use of consultants for writing and reviewing test items. The reliability of instruments was estimated by Kuder-Richardson internal consistency coefficients. An item analysis was performed for each mastery test. The criterion-referenced instruments developed are available for use in (1) assessing the effectiveness of instructional programs in schools, in regions of the state, or on a statewide basis and (2) assessing a student's level of mastery for specialized units of instruction or for the entire course of instruction.

58- WARMBROD, J. Robert. Competencies of Students in Area Vocational Schools Who Have and Who Have Not Studied Vocational Agriculture in Grades Nine and Ten. Staff Study, 1973, The Ohio State University, Columbus.

Purpose. To investigate the extent to which eleventh-grade students entering specialized vocational agriculture programs in area vocational centers in Ohio know and understand some of the basic principles of agriculture, the extent to which they are familiar with the world of work in agriculture, and the extent they participate in school and community activities, including an assessment of their knowledge of and ability to use leadership principles. The major question investigated was: What are the competencies in the basic principles of agriculture of students who (1) studied vocational agriculture in grades 9 and/or 10 before entering the area vocational center and (2) did not study vocational agriculture in grades 9 and/or 10 before entering the area vocational center?

Method. Instructional objectives for ninth- and tenth-grade instruction in agriculture were identified by teachers of agriculture. From these objectives, criterion-referenced test items were developed for crop and soil science, animal science, agricultural mechanics, agricultural occupations, and leadership. Tests were administered to all students entering in the fall of 1972 specialized vocational agriculture programs in area vocational centers in 22 vocational education planning districts in Ohio. Complete data were obtained from 973 students.

Findings. Sixty per cent of the students entering eleventh- and twelfth-grade specialized vocational agriculture programs in area vocational centers had not studied agriculture in grades 9 or 10 in local

schools; 40 per cent had studied agriculture in grades 9 and/or 10 before entering the area center. Of the students who had not studied agriculture in grades 9 or 10, 47 per cent attended local schools where vocational agriculture is taught. The two groups of students are similar when compared on educational and occupational plans and reasons for enrolling in vocational agriculture in area centers. Students who had studied agriculture in grades 9 and 10 before entering the area center are primarily male and have a farm background. Students who had not studied agriculture in grades 9 and 10 include a higher proportion of girls and are more likely to live in towns rather than on a farm.

Students enrolling in vocational agriculture in area centers who studied agriculture in grades 9 and 10 were no more knowledgeable about the world of work in agriculture and the occupational opportunities in agriculture than students entering area schools without prior instruction in agriculture. Students who had studied agriculture in grades 9 and 10 prior to attending the area centers exhibited substantially higher levels of mastery on criterion-referenced tests on leadership, animal science, crop and soil science, and agricultural mechanics than students without prior instruction in agriculture.

59- Welton, Richard F., Teaching Animal Nutrition by Classroom Demonstration in the Agricultural Schools of the Federal University of Santa Maria, Brazil. Staff Study, 1974. Southern Illinois University, Carbondale.

Purpose. The primary purposes of this study were: 1) To develop instructional materials to aid agricultural teachers in teaching animal nutrition; and 2) to determine the effects of control and experimental diets on the performance of chicks.

Method. This study was conducted for a period of four weeks at each of the agricultural schools of the Federal University of Santa Maria, Brazil. At each site, ninety, straight run, day old chicks were divided into six groups of fifteen birds each. The six groups represented the feeding treatments formulated for the study. Four feed components, consisting of 1) ground corn; 2) soybean oil meal; 3) a vitamin pre-mix; and 4) a mineral pre-mix were varied to obtain the ~~six~~ experimental diets.

Findings. An analysis of variance indicated a highly significant difference between the six experimental diets for 1) average daily feed consumption; 2) final body weight; and 3) mortality.

A colored slide series was developed for each participating school. These slides depicted the visual effects of the six diets on the chicks at various periods during the trials at the respective agricultural schools.

A filmstrip on conducting a study on the effects of experimental diets on chick performance was developed for distribution to agricultural high schools in Brazil. This filmstrip combined the showing and telling aspects of how to conduct an animal nutrition demonstration similar to the one in this study.

Studies in Progress, 1974-75

Welton, Richard F., An Evaluation of the Agricultural Education Activities at the Federal University of Santa Maria, Brazil, 1971-1973. Staff Study. Southern Illinois University, Carbondale.

Welton, Richard F., The Development of Instructional Materials for Organizing Young Farmer Programs. Staff Study. Southern Illinois University, Carbondale.

Welton, Richard F., The Supply and Demand of Agricultural Occupations Teachers in Illinois, 1974. Staff Study, Southern Illinois University, Carbondale.

60- Wood, Eugene S. and Stitt, Thomas R., Pilot "Capstone" Baccalaureate Degree Programs Which Build Competencies Gained in Community College Occupationally Oriented Programs and Work Experience.

Purpose. The primary purpose of this study was to develop programs that would make it possible for selected students from occupationally oriented programs to obtain a baccalaureate degree without losing credit or time.

The objectives of the study were as follows:

1. To develop and refine a two-year "Capstone" program at Southern Illinois University at Carbondale providing graduates from community colleges with additional occupational knowledges, skills and teaching competencies.

2. Consultants and participants will develop model programs and procedures for implementing "Capstone" programs in other universities in Illinois.

Methods

1. One hundred and three students were selected to participate in a pilot "Capstone" project at SIU, Carbondale.

2. Three state-wide workshops and one workshop with out-of-state consultants were held to develop model programs and procedures for implementation of "Capstone" programs at other colleges and universities in Illinois.

Findings

One hundred and three students were enrolled in the program during the school year 1973-74. These students were selected from all areas in this state and were enrolled in six schools or colleges in the university. Scholastically these students fared as well as or slightly better than the regular transfer students.

A series of three workshops were held at Mt. Vernon, Elgin and Peoria to formulate the basis for a "Capstone" model. Slightly over 100 staff from junior colleges and four-year colleges participated in the workshops. The participants used an average AAS student situation named "Joe Capstone" and

indicated the hours of credit which would be granted and hours required for completion of a B.S. degree. Options which were considered included junior college teaching, secondary teaching and business and industry. This information along with suggestions for implementation of the Capstone concepts will be used by the consultants in formulation of the final model.

Four consultants were selected to evaluate the 1973-74 project and to make input for the proposed 1974-75 project. Many of their suggestions were incorporated into the 1974-75 project.

61- ZAHN, Dennis Gilbert, A Comparison of Four Units of Instructional Materials and Test Scores for the Pesticide Certification Examination in Kansas. Master's Report, 1973. Library, Kansas State University, Manhattan.

Purpose. Since the passage of the Kansas Pesticide Users Law, (1970) educators were called on to provide training for various groups who chose to become qualified to apply pesticides in Kansas after January 1, 1973. The purpose of the study was to compare and evaluate units of instructional materials available in Kansas to educate pesticide applicators for state certification and licensing.

Method: The study was limited to a twelve month period and included only students from the Liberal Area Vocational and Technical School(LAVTS) that used the four different units of instructional materials. The units were (1) Study Guides by the Weed and Pesticide Division of the Kansas State Department of Agriculture, (2) Kansas Pesticide Users Handbook by the Kansas Extension Service, (3) Agricultural Chemicals Special and (4) Agricultural Chemical Regular. The three and four units of materials were developed by the LAVTS instructors of Agricultural Chemicals, Kenneth Schuster and his assistant, the writer of the report.

Upon completion of the study, the research population was given an examination developed by the Weed and Pesticide Division of Kansas State Department. The examination was over the competencies which were required of pesticide applicators. The examination was confidential to the KSDA. The scores of the research population were reported according to the number of correct responses.

Findings. The findings indicated that there was little difference in the averages of the examination scores between the four groups. An analysis was made to determine which areas needed strengthening within the four units of instructional materials. A difference was observed by the writer in the attitude and desire which individuals had in the certification program.

The total test average for the four groups using four different instructional materials was 88.3% with students using KSDA material having an average of 86.3%. Extension material 88.2%, LAVTS Special material 87.0, and LAVTS Regular material 88.0%. Since it was the observation of the writer that the ability level of the students in the four groups using the four different instructional materials was nearly equal it was concluded that each of the materials were satisfactory for the instruction of agricultural chemical applicators.

indicated the hours of credit which would be granted and hours required for completion of a B.S. degree. Options which were considered included junior college teaching, secondary teaching and business and industry. This information along with suggestions for implementation of the Capstone concepts will be used by the consultants in formulation of the final model.

Four consultants were selected to evaluate the 1973-74 project and to make input for the proposed 1974-75 project. Many of their suggestions were incorporated into the 1974-75 project.

61- ZAHN, Dennis Gilbert, A Comparison of Four Units of Instructional Materials and Test Scores for the Pesticide Certification Examination in Kansas. Master's Report, 1973. Library, Kansas State University, Manhattan.

Purpose. Since the passage of the Kansas Pesticide Users Law, (1973) educators were called on to provide training for various groups who chose to become qualified to apply pesticides in Kansas after January 1, 1973. The purpose of the study was to compare and evaluate units of instructional materials available in Kansas to educate pesticide applicators for state certification and licensing.

Method: The study was limited to a twelve month period and included only students from the Liberal Area Vocational and Technical School(LAVTS) that used the four different units of instructional materials. The units were (1) Study Guides by the Weed and Pesticide Division of the Kansas State Department of Agriculture, (2) Kansas Pesticide Users Handbook by the Kansas Extension Service, (3) Agricultural Chemicals Special and (4) Agricultural Chemical Regular. The three and four units of materials were developed by the LAVTS instructors of Agricultural Chemicals, Kenneth Schuster and his assistant, the writer of the report.

Upon completion of the study, the research population was given an examination developed by the Weed and Pesticide Division of Kansas State Department. The examination was over the competencies which were required of pesticide applicators. The examination was confidential to the KSDA. The scores of the research population were reported according to the number of correct responses.

Findings. The findings indicated that there was little difference in the averages of the examination scores between the four groups. An analysis was made to determine which areas needed strengthening within the four units of instructional materials. A difference was observed by the writer in the attitude and desire which individuals had in the certification program.

The total test average for the four groups using four different instructional materials was 88.3% with students using KSDA material having an average of 86.3%. Extension material 88.2%, LAVTS Special material 87.0, and LAVTS Regular material 88.0%. Since it was the observation of the writer that the ability level of the students in the four groups using the four different instructional materials was nearly equal it was concluded that each of the materials were satisfactory for the instruction of agricultural chemical applicators.

SUBJECT INDEX: SUMMARIES OF STUDIES, 1973-74*

Administration and Supervision: 8, 30, 40.

Curriculum: 45, 48, 49.

Educational Programs -

Adult, Post-Secondary, and Continuing Education: 10, 24, 29, 60.

Cooperative Extension Education: 37, 55, 56.

Programs for High School Students: 7, 33, 34, 38.

Programs for Students with Special Needs:

Leadership: 5, 23, 26, 42, 43.

Evaluation: 3, 12, 18, 19, 25, 31, 39, 54, 57.

Guidance, Counseling and Testing: 11, 14, 32.

Learning Processes and Teaching Methods: 9, 15, 27, 35, 44, 46, 50, 51, 52, 59, 61.

Manpower and Competency Needs and Employment Opportunities -

Competencies in Agriculture: 13, 16, 17, 58.

Cooperative Experience in Agricultural Occupations: 1, 2.

Employment Opportunities: 4, 22, 53.

Staffing: 41.

Teacher Education: 21, 28, 36, 47.

Other: 20.

---

*The summaries are arranged alphabetically by author and numbered consecutively. Numbers refer to the number of the study rather than to page numbers.

STUDIES IN PROGRESS, 1974-75

Alvarez, Moises. "Factors Related to the Utilization of Agricultural Technology in Agricultural Development Projects in Columbia." Dissertation, Ph.D. The Ohio State University, Columbus.

Bahauddin, Abul M. Analyses of vocational-technical education in Bangladesh for the development of an alternative system. Thesis, Ph.D. Michigan State University, East Lansing, Michigan.

Bender, Ralph E. "The 1975 Occupations of Recent Graduates of Vocational Agriculture in Ohio." Staff Study, The Ohio State University, Columbus.

Bender, Ralph E. "Influence of Selected Factors Upon Vocational Choice of Majors in Agricultural Education and Teachers of Vocational Agriculture Learning Teaching." Staff Study, The Ohio State University, Columbus.

Boucher, Leon W. "The Identification of Technical Agricultural Competencies Needed by Employees Entering Farming." Staff Study, The Ohio State University, Columbus.

Boucher, Leon W. and Starling, John T. "An Analysis of Professional Performance Activities Completed by Majors in Agricultural Education." Staff Study, The Ohio State University, Columbus.

Brooks, Henry M. "Perceived Training Needs of Extension Specialists and Supervisors at 1890 Land Grant Institutions and Tuskegee Institute." Dissertation, Ph.D. The Ohio State University, Columbus.

Byler, B. Competency-Based Professional Education In-Service Needs of Agriculture Instructors in Iowa Area Vocational Schools. Iowa State University, Ames.

Cunningham, Clarence J. "An Evaluation of the Graduate Program in Agricultural Education." Staff Study, The Ohio State University, Columbus.

Cunningham, Clarence J. and Young, Richard E. "Staffing Patterns in the Cooperative Extension Service in the United States." Staff Study, The Ohio State University, Columbus.

Dillon, Roy D. "Identification of Applied Biological Science Interests of 5th, 8th, and 11th Grade Students in Nebraska," Staff Study, University of Nebraska, Lincoln.

Dillon, Roy D., "Employment Opportunities and Competency Needs of Agricultural Processing Workers in Lancaster County, Nebraska," Staff Study, University of Nebraska, Lincoln.

Douglass, Richard L. and Horner, James T., "Approaches to Occupational Education and Teacher Preparation for Rural Development," Staff Study, Department of Agricultural Education, University of Nebraska, Lincoln.

Douglass, Richard L. and Horner, James T., "An Evaluation of Mediated Career Information for Modifying Aspirations, Knowledge and Attitudes Toward the World of Work," Staff Study, University of Nebraska, Lincoln.

Douglass, Richard L., Bringelson, Richard A., and Horner, James T., "An Evaluation of the Effectiveness of Mediated Agricultural Mechanics Materials," Staff Study, University of Nebraska, Lincoln.

Glazier, Jr., G. Donald. "Attitudes of Selected Clientele Toward Vocational Agriculture Programs of Two County Agricultural Schools in Massachusetts." Dissertation, Ph.D. The Ohio State University, Columbus.

Gliem, Joe. Effectiveness of a Student Reference in Teaching Safety to High School Students. Iowa State University, Ames.

Groves, Robert. "Factors Influencing Family Migration from Appalachia." Dissertation, Ph.D. The Ohio State University, Columbus.

Guiler, Gilbert S. "An Assessment of New Teachers' Proficiency in Ten Areas of Competency." Staff Study, The Ohio State University, Columbus.

Hanson, Gunder R. A History of the Speciality Crops Program of the Detroit Lakes Area Vocational-Technical Institute and a Study to Determine Attitudes of Farmers Enrolled Toward Selected Aspects of the Program. A Colloquium Paper for the M.S. Degree, Agricultural Education Department, North Dakota State University, Fargo.

Hasselman, Elvin. Effectiveness of the Veterans Farm Cooperative Training Programs in Post-Secondary Institutions in Iowa. Iowa State University, Ames.

Hoerner, Harry J. A Survey on Compliance with the use of the Electrical Ground-fault Interrupter in New Single-family Dwellings of the Carbondale, Illinois City and Rural Areas. Staff study in the department of Agricultural Industries, Southern Illinois University, Carbondale.

Householder, Larry. "Perceptions of Selected Groups Concerning the Role of the Local Supervisor of Vocational Agriculture in Vocational Education Planning Districts in Ohio." Dissertation, Ph.D. The Ohio State University, Columbus.

Jenkins, David D. "Analysis of New Extension Faculty Orientation." Staff Study, The Ohio State University, Columbus.

Johnson, Carlton E. "Need for Textbooks in College Agricultural Mechanic Curriculums." Staff Study, The Ohio State University, Columbus.

Kahler, A. A. Development of a Philosophy, Purposes, Curricula, and Strategies for Implementing Vocational Agriculture in Iowa. Iowa State University, Ames.

Leising, James. Assessment of Philosophic Constructs and Purposes of Iowa Vocational Agriculture Programs. Iowa State University, Ames.

Lovingood, Miles. "Agricultural Mechanics Competencies Needed by Vocational Agriculture Teachers in Farm Power and Agricultural Construction and Maintenance." Dissertation, Ph.D. The Ohio State University, Columbus.

McCracken, J. David and Yoder, Edgar. "Determination of a Common Core of Basic Skills for Agribusiness and Natural Resources." Staff Study, The Ohio State University, Columbus.

McCracken, J. David and Newcomb, L. H. "Development and Field Testing of Improved Instructional Units for Adult Class Instruction in Agriculture." Staff Study, The Ohio State University, Columbus.

McCracken, J. David; Moore, Gary E., and Newcomb, L. H. "Development of a System for Determining In-service Education Needs of Teachers." Staff Study, The Ohio State University, Columbus.

McGhee, Maxie B. and Warmbrod, J. Robert. "Evaluation and Field Test of Curriculum Guides in Career Education." Staff Study, The Ohio State University, Columbus.

Miller, Raymond A. "An Evaluation of the Living Learning Program for Undergraduates in Agriculture and Natural Resources at The Ohio State University." Dissertation, Ph.D. The Ohio State University, Columbus.

Moore, Gary E. "The Teaching Effectiveness of Professionally and Non-professionally Prepared Teachers of Vocational Agriculture. Dissertation, Ph.D. The Ohio State University, Columbus.

Morgan, John P. "Benefits and Costs of an Adult Education Program for Farmers." Dissertation, Ph.D. The Ohio State University, Columbus.

Myers, Donald. "The Effectiveness of Traditional Lecture and Telelecture in Teaching Adults." Dissertation, Ph.D. The Ohio State University, Columbus.

Newcomb, L. H. "A Study of Grading Alternatives for The Ohio State University." Staff Study, The Ohio State University, Columbus.

Newcomb, L. H. "Alternative Grading System for American Educators." Staff Study, The Ohio State University, Columbus.

Ocampo, Saturnino M. "The Occupational Knowledge of Senior Vocational Agriculture Students." Dissertation, Ph.D. The Ohio State University, Columbus.

Ojeda, Gabriel. "Role of the ICA's Regional Director of Rural Development as Perceived by Selected Rural Development Personnel." Dissertation, Ph.D. The Ohio State University, Columbus.

Roediger, Roger D. "Criterion-Referenced Assessment of the Competencies of Students Completing Programs in Ornamental Horticulture." Dissertation, Ph.D. The Ohio State University, Columbus.

Rohrbach, Keith V. "The Training and Competency Needs of Personnel in the Food Processing Industry at the Vocational Level in the Columbus Area." Dissertation, Ph.D. The Ohio State University, Columbus.

Shannon, Theodore P. "A Comparison of Simulation and Conventional Instructional Materials in Southeast Ohio Occupational Work Experience Programs." Dissertation, Ph.D. The Ohio State University, Columbus.

Stitt, Thomas R. Wood, Eugene S., Development of Teachers' Guide and Student Instructional Materials for Seven Selected ABAO Related Units. Southern Illinois University, Carbondale.

Symons, William B. "Alternative Methods of Evaluating Student Capabilities Relating to Small Gas Engines." Dissertation, Ph.D. The Ohio State University, Columbus.

Thuemmel, William L. "Agribusiness and Natural Resources Education in Michigan: Employment Demand, Competencies Required and Recommended Delivery Systems," is the title by Dr. Thuemmel and will be completed by June 30, 1973.

Waktola, Aregay. "Assessment of Behavioral Developments Induced by Packaged Programs of Agricultural Technologies in Rural Ethiopia." Dissertation, Ph.D. The Ohio State University, Columbus.

Warmbrod, J. Robert. "Factors Associated with Level of Students' Mastery in Vocational Agriculture." Staff Study, The Ohio State University, Columbus.

Wilson, Richard H. and Symons, William. "A Model Computer Program for the Storage Update and Retrieval of Agricultural Occupations Manpower Data to Enable Projections and Guide the Development of Vocational and Technical Education Curricula." Staff Study, The Ohio State University, Columbus.

Wood, Eugene S. and Stitt, Thomas R., Pilot "Capstone" Baccalaureate Degree Program Which Build on Competencies Gained in Community College Occupational Oriented Programs and Work Experience, State of Illinois, Division of Vocational and Technical Education, Springfield, Illinois in cooperation with Southern Illinois University, Carbondale.

Wotowiec, Pete. "Appraisal of Horticultural Education Programs in the Cleveland (Ohio) Public Schools." Dissertation, Ph.D. The Ohio State University, Columbus.

Yoder, Edgar P. "Cost Effectiveness Analysis of Selected Educational Programs." Dissertation, Ph.D. The Ohio State University, Columbus.